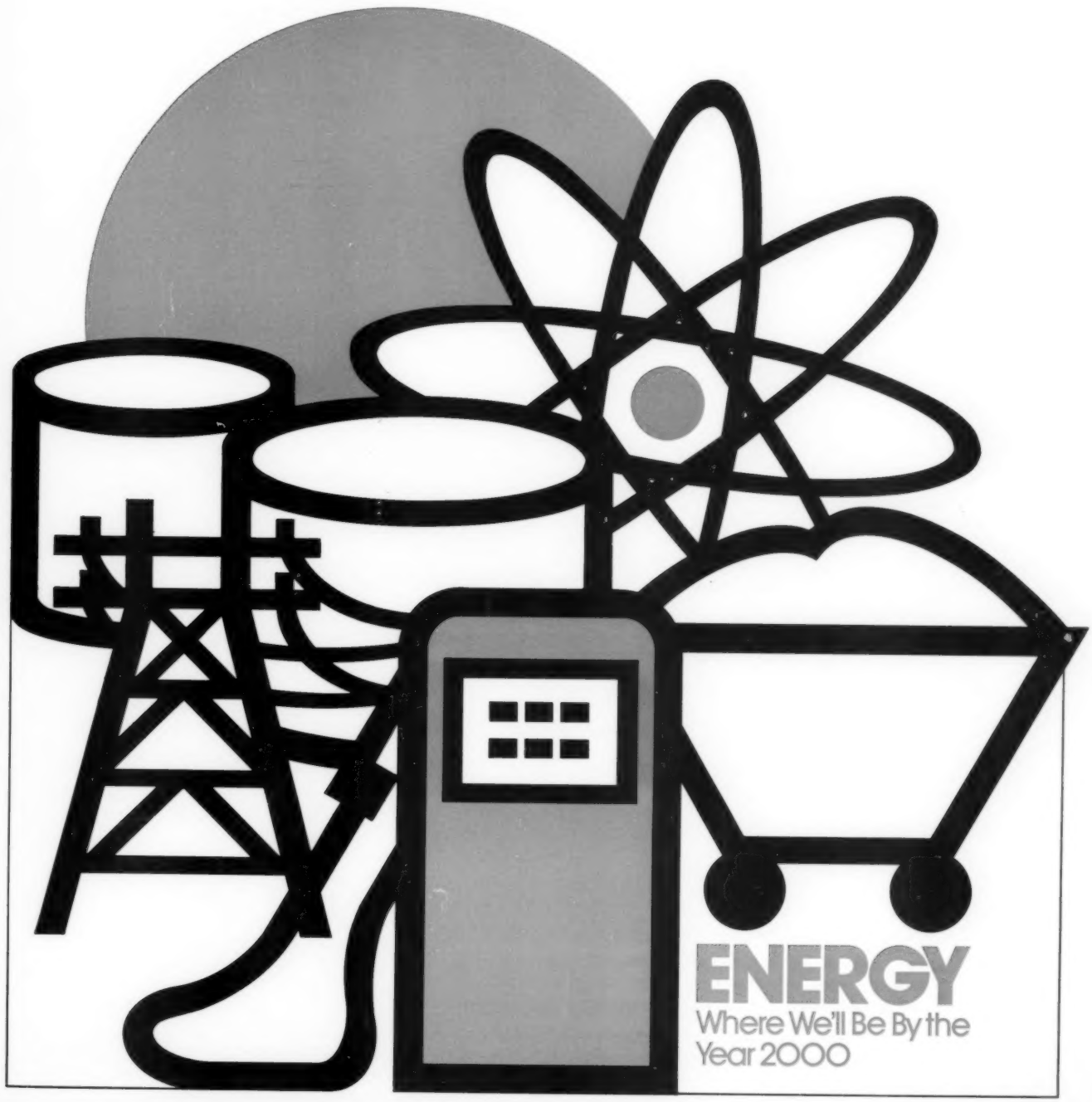
COMMERCE AMERICA

U.S. Department of Commerce / May 9, 1977



Newsmemo

For a truly eye-popping growth statistic, consider this: $17 billion in 1976 compared to $700 million in 1965. This 24-to-1 leap occurred in automotive products trade between the U.S. and Canada after the two countries decided to remove tariffs on autos, trucks and parts flowing across the border and transform U.S.-Canadian automotive production into, essentially, one industry. U.S. automotive shipments to Canada in 1976 were about $9 billion and imports from Canada were $8 billion. Automotive parts accounted for the entire U.S. surplus in 1976, as was the case in 1975. With each the other's major trading partner, the two nations are now discussing automotive trade action outside the Automotive Products Agreement.

An expected trend toward smaller, no-frills single-family houses has not developed. Rising construction, land and financing costs, coupled with fewer one-family unit starts in 1974 and 1975, brought predictions that 1976 would see a shift toward smaller, more austere homes. But recent data show continued emphasis on larger, more luxurious homes. Just about half of the homes completed last year had 1,600-plus square feet of floor space, compared with 45 percent in 1975 and 35 percent in 1971. Figures on incorporation of air conditioning, multiple bathrooms and fireplaces into the new homes also contradict the no-frills predictions.

For resales of existing single-family homes, 1976 was the best year in U.S. history. More than 3 million units were sold, priced at $127 billion, or 32.5 percent above 1975. Of this increase 70 percent resulted from more unit sales, the rest from higher prices. The 1976 value of total sales almost doubled 1972 and was more than 3½ times the 1968 level. Seen as contributing factors: an ample supply of mortgage funds at interest rates that were lowest in recent years, brighter employment prospects, and a substantial rise in personal income.

Marketing of Japanese-developed home videotape recorders by U.S. firms could be a watershed in the industry. RCA will be a licensee of JVC Matsushita and Zenith of Sony. Their moves represent the first time that established U.S. consumer electronics makers have depended on Japanese technology to develop and market a basic new product. It is felt that this signifies the emergence of Japan in a leadership role in consumer electronic technology.

A mid-March wage increase for Germany's basic steel workers will have worldwide ripple effects. The 6.9 percent hourly boost, plus bonuses and other social payments, brings German employee costs to about $14,650 per year. Under the new U.S. wage agreement, the parallel U.S. figure may go up to $19,000. But U.S. steel workers are considered more productive. German industrialists are concerned that the wage agreement could make all German steel exports, including items made of steel, more difficult, particularly in the U.S. market. The competitive advantage of Japanese steel exporters will be enhanced.

Companies in seven nations are working together on a study of future lightweight materials use in transportation. The 18-month effort is going ahead at the Battelle Columbus (Ohio) Laboratories and at a Battelle research center in Switzerland. It will help vehicle industries work out strategies and sound business plans over the next decade in the face of new fuel and energy requirements. It will also assist the 20 sponsoring firms to choose materials to meet requirements in occupational health and safety, environmental protection and consumer safety.

Agreed: business gets poor and unfair media coverage. But the blame rests on both sides, said 300 business executives, working news people and journalism students at a Michigan State forum sponsored by the National Association of Manufacturers. Sample comments: "Newspapers ought to recognize that there is a large market out there for people who want to understand and appreciate business news." "American business spends too much time talking to itself and not enough time talking to the general public. The medium of today is television, and as imperfect as TV news is, business is not using it effectively." "The press did about as badly as the economists in covering the recession."

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COVER: Continued heavy reliance on imported oil and gas despite stronger public support than some other experts expect for the President's energy saving proposals is forecast in the story beginning on page 4 concerning a Commerce energy report which predicts where we'll be by the year 2000.

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Autos, Inventories Dominate Growth In First Quarter GNP

This column was prepared by Commerce Chief Economist Dr. Courtenay Slater in collaboration with Staff Economist Thomas W. Kraseman.

Dr. Slater

The economy, aided by an unusually early and warm spring, has recovered more rapidly than expected from the production losses caused by severe cold weather and natural gas shortages in January and early February. In the first quarter, gross national product (GNP) rose at an annual rate of 5.2 percent, after adjustment for price increases, the largest expansion in a year and double the rate of increase in the previous quarter. If the weather had been normal and fuel supplies adequate, the rate of GNP growth might have been 1 to 1½ percentage points higher. Performance was far from uniform among the various sectors of the economy, however.

A major part of the first quarter rise resulted from a sharp increase in purchases of motor vehicles by both consumers and businesses. In part this may have reflected a rebound after the auto strike in late September and October last year, and a somewhat better match between the kinds of auto models available and those most demanded by the public. Additions to installment debt rose sharply to record levels, suggesting that consumers' confidence in their future incomes had strengthened. The surge in motor vehicle purchases followed three quarters with little gain in real terms. Some of the rise came at the expense of purchases of nondurables, which held essentially unchanged in real terms following a large increase in the fourth quarter.

The other major factor in first-quarter growth was an increase in business inventory accumulation, indicating that the minor inventory adjustment of the fourth quarter has about ended. Last year, inventories rose at about a $15 billion annual rate per quarter (in current dollars) in the first three quarters, or a rate of increase faster than that of final sales. To correct the imbalance, inventory accumulation was sharply reduced in the final quarter. The inventory rise in the first quarter of this year, though significantly larger than in the fourth quarter, remained smaller than the growth in final sales. Thus it is likely that the rate of inventory accumulation will increase further.

Factors holding down growth in the first quarter were the effects of the severe weather and a sharp downturn in net exports of goods and services. The trade balance has been falling for more than a year. In the first quarter it was in deficit by $5 billion (in current dollars) compared with surpluses of $4 billion in the second half of last year and $9 billion in the first half. Exports may have been held down to some extent in the first quarter by shipping difficulties due to bad weather.

The factor which has dominated the change in the trade balance, however, has been sharp growth of oil imports. The oil rise in the first quarter reflected both the OPEC price increase and increased demand for heating fuel because of the severe winter. The influence of these factors of course is expected to moderate in the second quarter. Export demand for major U.S. farm products—a mainstay of our trade—is not particularly strong this year, however.

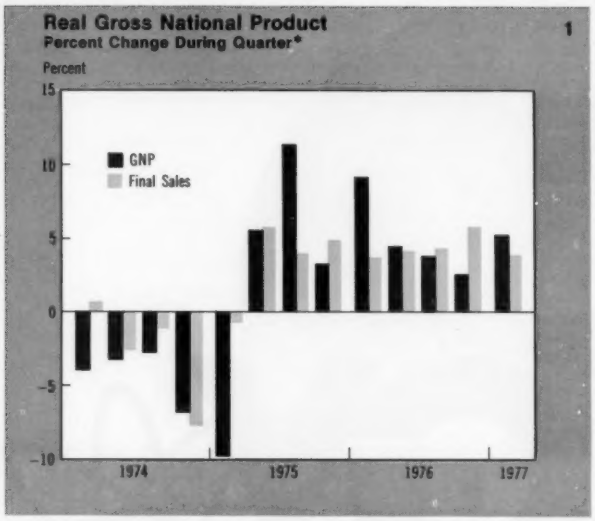
The impact of bad weather was also visible in construction. Residential building barely increased in real terms, after a sharp fourth-quarter gain, and nonresidential construction declined somewhat. These effects occurred largely in January. Unusually mild weather in March brought a rebound in activity. Housing starts and building permits rose to the highest level in several years in March, indicating that residential construction spending will be strong in the second quarter.

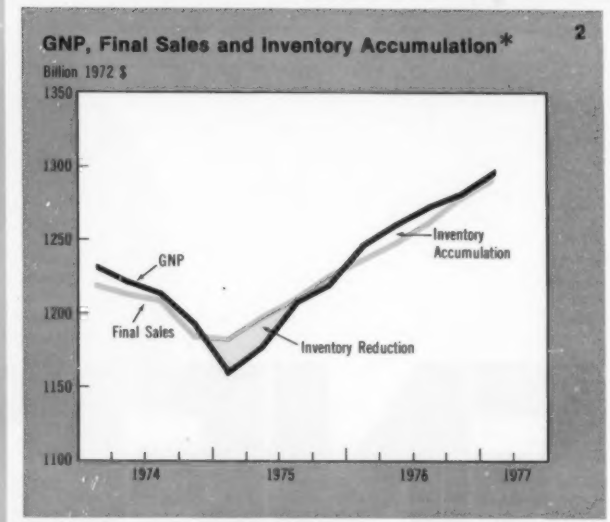
Housing demand is very strong, measured by sales activity and rental vacancy rates, and financing is readily available. Although prices of single-family homes have continued to rise sharply, the effect on monthly mortgage payments has been tempered by a recent slight decline in mortgage interest rates, so that average payments have risen only in line with family incomes.

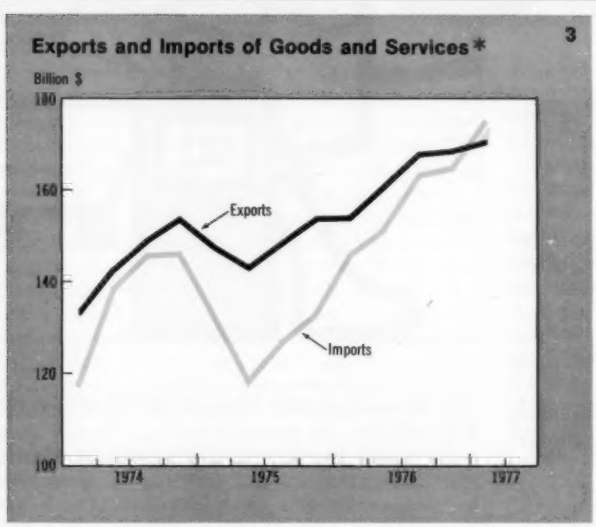
The increase in real final sales, which had been accelerating steadily for the past four quarters, slowed to a 3.9 percent annual rate in the first quarter, reflecting the effects of the sharp drop in net exports and the impact of bad weather. Government purchases also declined slightly in real terms at both the federal and the state and local level and are actually below the levels reached at the end of 1975.

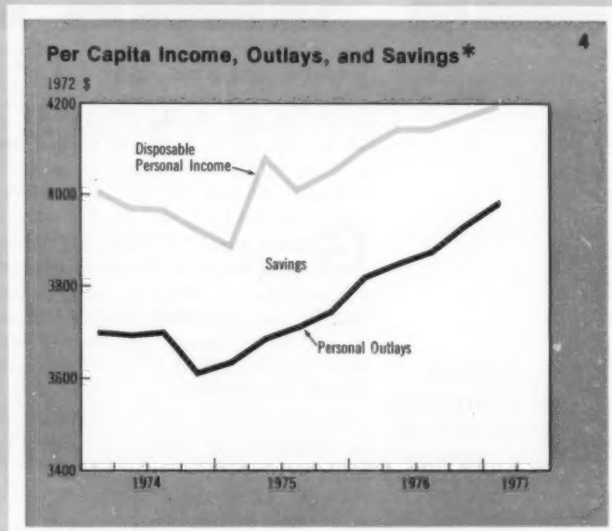
The rate of price increase, as measured by the GNP chain price index, accelerated in the first quarter, especially in construction and in nondurable goods, which includes petroleum fuels as well as weather-affected food prices. The increase in durable goods prices, on the other hand, slackened from the fourth quarter when auto and truck prices had been sharply increased. The chain price index, calculated on the weights of the preceding quarter, rose at a 6.6 percent annual rate, compared with last year's average of 5.4 percent, and the largest rise in a year and a half. Prices in the business sector showed a slightly stronger acceleration, to a 6.5 percent annual rate in the first quarter, from last year's average of 5.1 percent. Some of the speedup reflected cold weather effects, which added an estimated one-half percentage point to the rise in the chain price index.

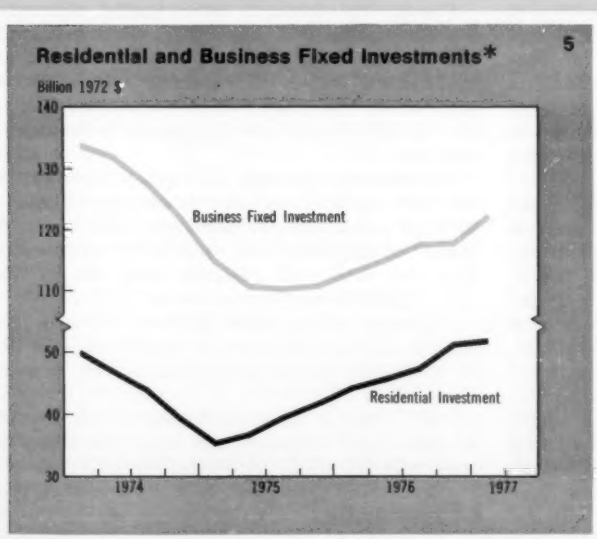
Per capita real disposable income had risen by about the same amount as personal consumption expenditures from the third quarter of 1975 to the second quarter of 1976. Since then, however, the growth in real income has slowed markedly, while expenditures have continued to rise at about the same rate as before. The slower growth of real incomes is due partly to an acceleration in the rate of price increase, and partly to a somewhat slower rise in dollar incomes. Growth of spending in excess of income gains has produced a drop in the saving rate from 7.1 percent in last year's second quarter to 5.0 percent in this year's first quarter. If the saving rate had remained at 7.1 percent, personal consumption expenditures in the first quarter would have been about $27 billion lower (in current dollars) and the increase in real GNP from the second quarter of last year would have been only about half as large as it actually was. Since the saving rate has fallen below 5 percent in only one quarter of the past 13 years, faster growth in current incomes will be needed if the recent rate of rise in consumption expenditures is to be maintained.

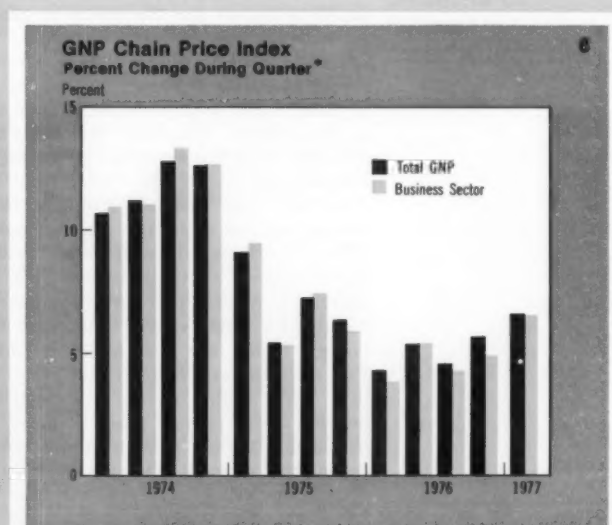








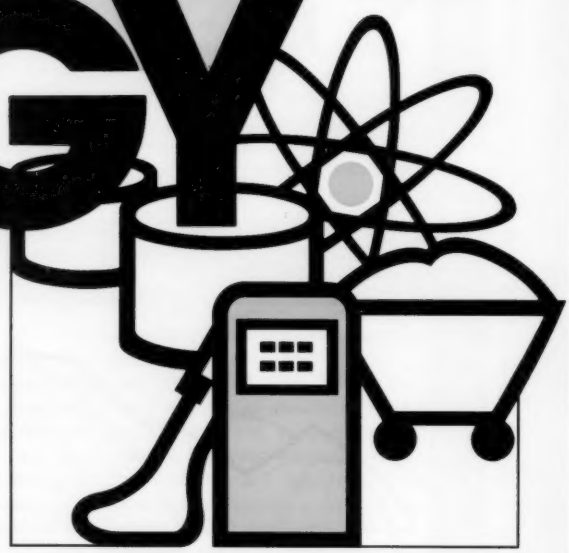




* Seasonally Adjusted Annual Rate

ENERGY

WHERE WE'LL BE BY THE YEAR 2000



Gasless cars . . . almost 700 new 1,100-megawatt electrical generating plants throughout the country . . . industry using 60 percent less gas and oil per completed product. These are all part of the "most likely" U.S. energy scenario for the year 2000 predicted by Commerce's Office of Energy Programs.

The study also sees a continued heavy reliance on imported oil despite stronger public support than some other experts expect for President Carter's energy saving proposals or such other measures as are adopted.

The forecast presents what is considered to be the most likely U.S. energy picture (supply/demand balances) for the years in question. This is in contrast to the more common "multiple scenario" approach which offers a menu of outcomes assuming different policies, or different sets of intervening events with no indication of what is most likely. However, the study's authors did examine 15 of these studies in coming to their own conclusions.

Second, the forecast contains detailed sector breakdowns of both fuel sources and consumption sectors (residential/commercial, industrial, transportation and electrical generation). These breakdowns, moreover, take into account the fuel specificity for each energy use, and the fact that energy forms are not perfectly interchangeable. For instance, automobiles run on petroleum as of now, light bulbs operate on electricity, and the energy twain cannot possibly meet. Since supply and demand must balance, these breakdowns help reveal the sectoral tradeoffs that must be considered in discussing energy alternatives and are more important for policy evaluation, in the authors' eyes, than are simple levels of energy consumption and supply.

Third, the forecast is carried out to the year 2000. Extending the forecast to this point helps to demonstrate the impact that sustained implementation of current energy policies will have on the nation's energy future.

Finally, the forecast takes special account of the diminishing U.S. fossil fuel resource base. Oil and gas particularly are finite and depletable and, towards the end of the century, will be increasingly costly and difficult to recover. This latter factor has not always been recognized in forecasts of this type.

The forecast assumes an approximate 1.2 percent per capita growth rate in energy use over the forecast period. This is much less than during the decade of the 1960s and early 1970s, and is lower than the rate used in most other energy forecasts. The reasons for this are:

—Energy consumption patterns already have clearly undergone some real change since the 1973-74 crisis and consumption growth levels have decreased.

—Government conservation legislation and public awareness programs will have increasing impact.

—Increasing prices will have a dampening effect on consumption.

—Technology in the form of energy-saving devices, lighter materials, and other innovations will contribute to lower per capita energy use.

—Finally, the U.S. appears to be approaching "energy saturation" on a per person basis under existing patterns of income distribution. In other words, large energy-consuming items such as automobiles and air-conditioners are approaching total market penetration.

In short, the forecast asserts that energy growth projections must be viewed in the light of recent and reasonably foreseeable events, in projecting that per capita energy consumption will grow at the rate of only about 1.2 percent per year (as compared to a rate of 1.5 percent for the last half century) and that overall U.S. energy consumption will grow at approximately 2 percent during this period. Many other energy forecasts project a 3-4 percent overall energy growth in the years ahead.

The assumptions underlying the forecast pointedly exclude either "miracles" or "manacles." That is to say dramatic, unforeseen technological breakthroughs that might suddenly change the energy picture are not provided for. Neither is it expected that the American public will accept direct controls or direct energy rationing in the absence of a clear and present crisis (such as an embargo) or as long as the deficit in the energy balance can be made up with foreign oil at a price competitive with the cost of alternate fuels.

In addition to its primary role as a projection of the most likely energy picture for 1985 and the year 2000, the forecast can serve also as a learning tool for understanding energy supply/demand relationships and as a device for identifying key energy issues.

The key finding is that, even with the lower rate of energy use projected in the forecast, domestic energy supply (especially oil and gas) will not keep pace and reliance on foreign imports will continue and even increase.

Some specific forecast highlights follow.

U.S. energy consumption

Total U.S. energy consumption in 1976 was on the order of 35.2 MMBOE/D (million barrels of oil equivalent per day). U.S. consumption in 1985 and the year 2000 is projected to be 41.3 and 54.8 respectively. Expressed in quadrillion BTUs (Quads) this is for 1985—87 Quads; for 2000—116 Quads.

These values are at the low end of the scale in the forecasting community. Any further reduction would require a significant break with past policies and trends.

Petroleum supply

Domestic oil prices will approach world market prices.

Despite this domestic oil production, even with Alaskan oil and Outer Continental Shelf development, will remain essentially the same through 1985 (at approximately 10 million barrels per day). Even this will require a major effort. U.S. oil production by the year 2000 is expected to decline to some 6.2 million barrels per day.

Extensive reliance on imports of foreign oil will continue (8.0 million barrels per day in 1985 and 6.1 million barrels per day in 2000 as compared to 6.6 million in 1976). Oil imports will constitute some 45-50 percent of U.S. domestic petroleum consumption.

Natural gas supply

Although natural gas prices are expected to approach oil prices on a BTU basis, domestic production levels are expected to continue to decline (from approximately 20 trillion cubic feet in 1976 to 17 in 1985 and 13 in the year 2000).

The U.S. will be importing about 1.4 trillion cubic feet of liquefied natural gas (LNG) by 1985 and about 4 trillion cubic feet in the year 2000.

Electricity

The shift to electricity will continue. Electricity will account for 37 percent of U.S. primary energy consumption in 1985 (as opposed to some 30 percent in 1976) and for more than 50 percent in the year 2000.

The use of oil and gas for making electricity will be reduced and ultimately phased out.

Electrical requirements in 1985 will necessitate building the equivalent of 129 new 1100-megawatt electrical generation plants (either coal-based or nuclear).

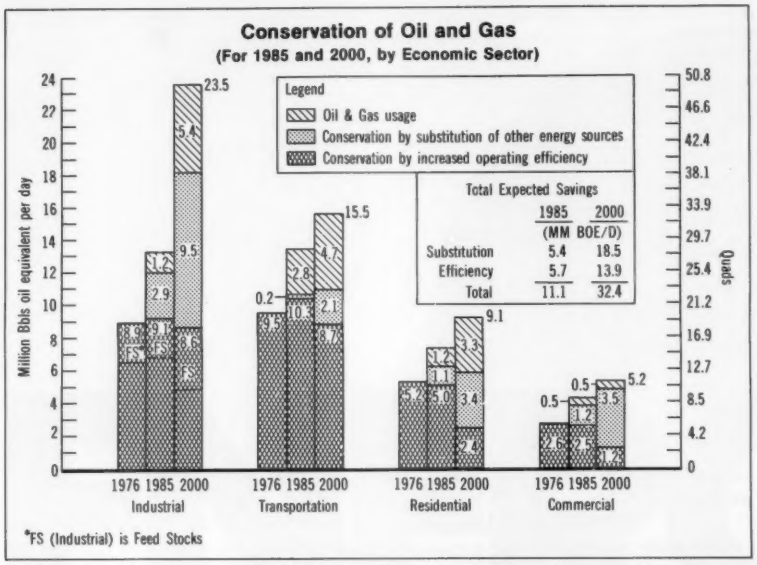
The demand for electrical energy in the year 2000 will necessitate building, somewhere in the United States, still another 545 new electrical generating plants of 1100-megawatt capacity, or one every 16 days.

Coal production

Coal production for electrical generation will expand from 447 million tons in 1976 to some 610 million tons in 1985 and 1,315 million tons in the year 2000.

Overall coal production will increase from 667 million tons in 1976 to 890 in 1985 and 1,860 mil-

... the U.S. appears to be approaching "energy saturation" on a per person basis under existing patterns of income distribution.



lion tons in the year 2000, accounting for 33 percent of U.S. energy consumption in that year.

At least 12 full scale coal to gas or liquid synfuel plants will be built by the year 2000, adding more than one Quad to U.S. energy supply. If not, the United States will be forced to find an alternate fuel to supply this energy, probably electricity.

Nuclear power

The contribution of nuclear power to total U.S. energy consumption was less than one million barrels of oil equivalent (slightly more than two Quads) in 1976. This is expected to grow to 3.6 MMBOE/D in 1985 and 9.4 MMBOE/D in the year 2000 (or 17 percent of primary U.S. energy consumption at that point).

... domestic energy supply (especially oil and gas) will not keep pace and reliance on foreign imports will continue and even increase.

If this expansion of nuclear power capacity is not realized, then the number of coal-fired electrical generation plants and coal gasification plants will have to be increased.

Solar and other

A realistic assessment of solar and other nonconventional energy sources (biomass, wind, geothermal, and others) indicates that they will not play a significant part in our energy future during this century. The contribution of such energy sources is expected to be on the order of .3 MMBOE/D in 1985 and 2.4 MMBOE/D by 2000.

Conservation

Projected "savings" from fuel substitution measures (e.g. using coal and nuclear in place of oil and gas) and from the more efficient use of energy will amount to 11.4 MMBOE/D in 1985 and nearly 32 MMBOE/D in the year 2000, compared to historical (pre-1972) use rates.

Sector impacts

U.S. production of petroleum coupled with imports will be insufficient to meet the demand of the transportation sector in the year 2000. Some 26 million automobiles will have to be powered by something other than gasoline (electricity?), or alternate means of transport must be provided.

The industrial sector, by the year 2000, will have to reduce its oil and gas consumption on a per product basis by some 60 percent.

In summary, the report finds that by the year 2000 the United States will be a long way from full transition to inexhaustible energy resources. At that point, coal will provide about one-third of our energy, hydro and geothermal sources about 7 percent and solar/biomass/wind about 4 percent. The United States will still have a considerable way to go (55 percent of the total requirements) to achieve a full transition to these sources.

Among the major policy implications and issues that emerge from this forecast are:

Petroleum Imports. The prospect of continued reliance on petroleum imports points up the need both for: (a) maintenance of a strategic petroleum reserve, such as the doubling of the planned reserve to a total of one billion barrels called for under the President's energy plan, to mitigate the effects of a possible embargo; and (b) maintenance of a special relationship with key oil-exporting nations so as to assure continuity of supply.

Domestic Energy Resource Development. An all-out, crash effort to expand oil and natural gas exploration and production may not be desirable, given the level of reserve depletion that appears to have occurred. This finding was also emphasized in President Carter's plan. Steps to bring about an increase in U.S. domestic energy supply should seek to "optimize" oil and gas development and "maximize" coal development and utilization. Optimization of oil and gas output will require producing at a level that recovers the maximum amount from domestic reserves over time, rather than seeking to maximize production during 1976-85.

What about the automobile? The forecast indicates potential disarray in the transportation sector as the year 2000 approaches. The key factor will be the ability of auto manufacturers to meet transportation requirements with high-efficiency, non-petroleum burning vehicles. If the technology for producing such vehicles is not available in the late 1980s, basic decisions will have to be made regarding alternate modes of transportation for the car-using public or a national commitment will need to be made to the large-scale synthesization of petroleum from coal or the exploitation of U.S. oil shale reserves.

Liquefied Natural Gas (LNG) Imports. The forecast projects that LNG imports will reach 1.9 MMBOE/D by the year 2000, twice the current policy ceiling on such imports.

Capital Funding and Environmental Procedures. The continuing shift to electricity and the number of new (additional) coal and nuclear power plants required will pose a serious test of the existing institutional structure for handling capital funding and environmental procedures. These problems will exist whether greater or lesser emphasis is placed on one form of electrical generation as opposed to the other. Capital requirements for electrical generating capacity alone by the year 2000 are estimated at almost a half trillion dollars.

Waste Heat from Electrical Generation. For the most part, today's electrical power generation and distribution system delivers only one BTU for every three put into the process. The "waste heat" (or thermal pollution) resulting from this process can provide a valuable energy resource.

This forecast was carried out under the direction of Joseph A. Gustaferro, chief energy analyst for Commerce's Office of Energy Programs. Other major contributors included Michael Maher, Bruce Humphrey and Roswell Wing.

The barriers to its use now are primarily political and institutional, according to the report. A strong governmental effort to bring about conditions that would put this so-called waste heat to work (such as through co-generation and the "district heating" concepts) would result in profound changes in the results forecast in the report.

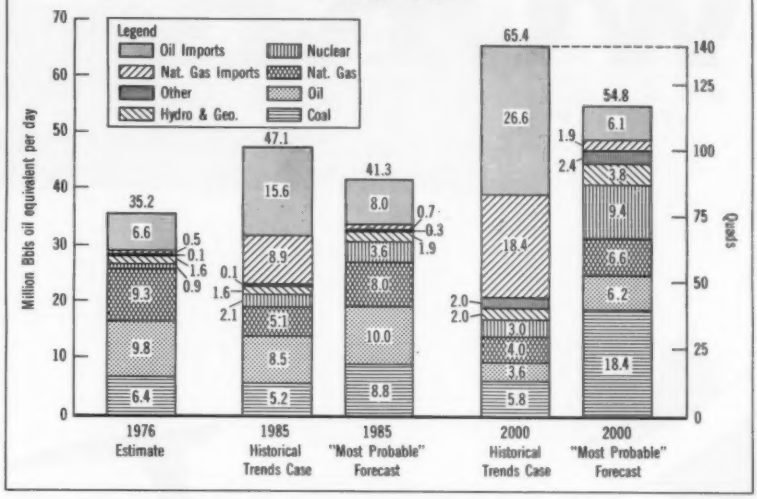
Coal Gasification. Coal is our most abundant resource. An option, and in part a trade-off, for energy deriving from electricity in the year 2000 is the use of this resource for producing high BTU gas, shipped through the gas pipeline network already in place. The forecast estimates that only about 12 coal gasification plants will be operating by the year 2000, even though such plants could offset (or replace) nuclear or coal-fired electrical generating plants on a 2 to 1 basis. Although experience and know-how are on the side of building more electric power plants, the report concludes that it seems desirable to get on with the job of building and testing the first few coal-gasification plants as soon as possible—in order to evaluate the possible benefits to the nation of a greater effort in this direction.

Solar and Non-Conventional Energy R & D. Although the role of non-conventional energy sources is not expected to play a significant role in increasing the U.S. energy supply in this century, there is a clear need to pursue a vigorous R & D effort to enhance wide use of these energy sources as soon as possible in the next.

Further Conservation Measures. A vigorous conservation effort is assumed in the forecast, which is in part reflected in the quite low rate of per capita energy growth used as an envelope for the projected supply/demand balances. Consideration may have to be given to steps that would keep the per capita rate of energy growth at or below 1.2 percent. In particular, efforts may be needed to induce even greater energy efficiency in the automobile fleet than now contemplated.

The report makes one final, general point: The forecast indicates that, while there are sectoral and fuel trade-offs that can be made in dealing with the energy problem as it evolves over the long term, it is clear that no *single* energy source can be *excluded,* if the 1985 and year 2000 energy supply/demand balances are to be achieved. All present forms or sources of energy, in short, will be required.

Historical and Most Probable U.S. Energy Use 1985 and 2000



A MATTER OF PRINCIPLES

President Carter's National Energy Plan, which is the Administration's proposed solution to the problems studied in the forecast by Commerce's Office of Energy Programs, is based on ten fundamental principles:

I. We can have an effective and comprehensive energy policy only if the government takes responsibility for it and if the people understand the seriousness of the challenge and are willing to make sacrifices.

II. Healthy economic growth must continue. Only by saving energy can we maintain our standard of living and keep people working.

III. We must protect the environment. Energy problems have the same cause as environmental problems—wasteful use of resources. Conservation helps solve both at once.

IV. We must reduce our vulnerability to potentially devastating embargoes by reducing demand for oil, making the most of abundant resources such as coal, and developing a strategic petroleum reserve.

V. We must be fair. Our solutions must ask equal sacrifices from every region, every class of people, every interest group. The energy producers deserve fair treatment, but we will not let the energy companies profiteer.

VI. The cornerstone of our policy is to reduce demand through conservation rather than through crash production efforts. Conservation is the quickest, cheapest, most practical source of energy.

VII. Prices should generally reflect the true replacement cost of energy. We only cheat ourselves by making energy artificially cheap and using more than we can really afford.

VIII. Government policies must be predictable and certain. Both consumers and producers need policies they can depend on so they can plan ahead.

IX. We must conserve the fuels that are scarcest and make the most of those that are more plentiful. We cannot continue to use oil and gas for 75 percent of our consumption when they make up only 8 percent of our domestic reserves. We must shift to coal while taking care to protect the environment, and apply stricter safety standards to nuclear energy.

X. We must start now to develop the new, unconventional sources of energy to rely on in the next century.

. . . by the year 2000 the U.S. will be a long way from full transition in inexhaustible energy resources.

WORK: Rethinking Basic Assumptions

This article is based on a recent address by Commerce Secretary Juanita M. Kreps to the Conference on Life Cycle Planning for Full Employment which met in Washington.

If we are to talk of work in terms that match the scope of the problems we face, we must allow our thoughts to reach outside the workplace. The tendency to treat work-related problems as though they existed in the factory or office exclusively has contributed more to our problems than to their solutions.

Because, when one examines not just problems of the job itself, but also non-work issues—issues associated with time free of work, both during the working years and before and after worklife—many traditional concerns come to be viewed in a different light.

What is the proper role and meaning of work in a lifetime framework, and does our present timing of work best suit human needs? More importantly, let us examine the value society seems to attach to work by looking at the value of non-work and in particular, the role we ascribe to those who do not work for pay.

Begin with the young, for whom work is seldom fun. As Russell Baker of *The New York Times* has pointed out:

> "Early in life, most of us probably observe an unhappy relationship between labor and wealth —to wit, the heavier the labor, the less the wealth.
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> "The man doing heavy manual work makes less than the man who makes a machine work for him, and this man makes less than the man sitting at a desk. The really rich people, the kind of people who go around on yachts and collect old books and new wives, do no labor at all.
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> "The economic reasons for dividing the money this way are clear enough. One, it has always been done that way; and two, it's too hard to change at this late date. But the puzzling question is why, since the money is parceled out on

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this principle, young people are constantly being pummeled to take up a life of labor."

Once in the work force, young people quickly discover that rewards are not evenly distributed. Rather, the big rewards flow to a few, presumably on the basis of ability. Aside from all the obvious questions of how this ability is measured on the job, many people question whether such a criterion is fair.

Against a backdrop of youthful discontent with work and its rewards, we are well advised to reconsider the economic value we place on work and the tendency to equate that value with the worth of the worker.

Work and Human Values. Even among economists there is some question as to whether the price paid for human labor is a reliable index of economic worth or whether, more often than not, earnings either under or overstate the value of a worker's contribution to output. The axiom that "a man gets what he is worth and is worth what he gets" assumes that competition in the market forces the employer to pay the worker a wage equal to the value of what he produces, otherwise he will go to work for another employer. Because competition and factor mobility are rarely perfect the worker won't always be able to do that. But, whether he can or cannot, the argument that earnings reflect productive worth says nothing about the value of the individual beyond this economic framework.

Nevertheless, there remains a strong tendency to equate human worth with earnings. And one of its consequences is to assign no social value to the person who does not work for pay. This approach to valuation in turn becomes a basis for setting social priorities.

For example, a retiree merely consumes the output of others, just as a child does; both must depend on others for their support. But their productive potential is different. Whereas investments in the young person will "pay off" because he will become a producer, spending for the older dependent yields no future return; hence heavy investments in the education of youth are wise, but expenditures to support the aged are socially wasteful.

This view that earnings and human worth are synonomous turns on the repugnant assumption that a person is of no consequence, save for the work he or she does; that economic value (whatever someone will pay for the work) is the full measure of the human being. On reflection, we readily admit that such an appraisal grossly understates the sum of the qualities that make up the individual. Yet the habit persists— to label useless those persons not currently productive, and to question the wisdom of giving the needs of non-earners any special attention.

This distorted view can be turned around first, by insisting that productivity is not an acceptable measure of human worth and second, by specifying an alternative scheme for valuing human beings. The first is not difficult; it requires only a soap box and a loud voice. The second is a matter for careful study.

To start us on the way, consider some popular views of time and its utility; the value of work and the importance of productivity; and the ways in which these views condemn all of us when we cease to work to the least respected role in society, a role accompanied by reductions in income and lower living standards as well.

The Value of Time. "In the world of commonsense experience, the only close rival of money as a pervasive and awkward scarcity is time," wrote Wilbert Moore more than a decade ago. The rivalry continues. Although for some the scarcity of time has long outstripped the need for money, it is still true that a large proportion of the world's people would trade time for money but are unable to do so; that is, they would work more hours for pay because they value goods more than time free of work.

Included in this group are the unemployed and the partially employed; youth who would combine work with school; older people who would combine work with retirement. Included also are many full-

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time workers whose taste for goods is stronger than their desire for leisure time.

Economists reason that the preference for additional money to buy goods rather than extra time for enjoying leisure is greater for people with smaller incomes and larger amounts of time still available for work. As working time increases, an added hour of work becomes more burdensome and each succeeding hour of leisure foregone becomes more valuable.

. . . if work determines man's worth, what happens when work ceases?

From this it follows that the person with days and months and years of free time has a view of leisure quite different from that of the 50-hour-a-week worker to whom an additional week or month of vacation is highly prized. But to someone to whom time is plentiful, little worth may be attached to getting more of it.

At some stages of life we are swamped with free time; at others, overworked. Some reasonable balance of work and leisure through the lifespan would be far more satisfactory. But in addition to the problem of allocating time, there are questions as to what is considered the best use of time. The usual view, that time's value depends on how "productively" it is used, pervades our decisions throughout worklife, when the use of each hour is scrutinized carefully. Witness the sale of consumer goods designed to reduce the time necessary for cooking, travel, and personal and household maintenance.

Other activities, such as visiting the sick and caring for children and very old people, are coming to be institutionalized in such a way that they constitute work for pay. In the absence of such organization, the elderly in particular are likely to be neglected, for our reluctance to provide them adequate care implies that giving attention to other people's needs would be more useful. Are the aged's productive years not over? And does the allocation of time to their needs not waste the time of productive workers?

In emphasizing the value of time spent in production, we confer on the worker the useful role and by implication we diminish the importance of the non-worker and consign him to a pointless existence. Losing sight of Aristotle's reminder that "the goal of war is peace, of business, leisure" it is easy to suppose that life with little work has little purpose. Persons without work to do, we reason, lead dismal lives.

Idleness would not be conferred in such abundance at the end of worklife if it were more freely available in earlier years. The old and the young have many of the same characteristics: minimum incomes, excessive amounts of free time, lack of status. Meanwhile, those in their middle years are harassed by heavy work commitments. Work satisfaction during this stage of life is diminished by the length of the workyear, just as the joy of free time declines when it becomes endless.

The Value of Work. Although man lacks enthusiasm for work, Freud points out, "No other technique for the conduct of life attaches the individual so firmly to reality as laying emphasis on work; for his work at least gives him a secure place in a portion of reality in the human community."

Contemporary authors stress the negative aspects of work, however; since most people work from economic necessity, work brings no sense of achievement. It is the pecuniary reward, not the urge to undertake work for its own sake, that motivates us. Nevertheless, in society's view work remains the measure of the person; it provides *the* standard of judging an individual's worth.

But if work determines man's worth, what happens when work ceases? Can we rely on the contribution made during worklife to sustain identity during retirement? Does one continue to be known as a fine craftsman or a brilliant teacher long after he ceases to practice the trade? Perhaps so.

Yet there is a curious tendency to view with approval those older persons who continue to work, and to deplore those elderly who just "give up." The press is particularly fond of praising 80 and 90-year olds who go to work every day. Taking part in recreational programs or travel arrangements—in general, enjoying free time—appears to have much less public approval, even if one has supposedly earned the leisure.

During working life the constant drive to produce, to use time wisely, to increase one's position or income through extra work pervades all activity.

As a result of the work ethic, the impact of technology which could increase productivity and thus allow people the luxury of greater freedom from toil, is largely subverted. Writer Steffan Linder indicts modern societies for the inability to turn the fruits of growth to the advantage of the people: "We had always expected one of the beneficient results of economic affluence to be a tranquil and har-

THE BOTTOM LINE—"In society's view work remains the measure of the person; it provides the standard of judging an individual's worth."

monious manner of life, a life in Arcadia. What has happened is the exact opposite. The pace is quickening and our lives in fact are becoming steadily more hectic."

The individual's failure to gain satisfaction from the work he does has been under renewed scrutiny in recent years. Worker alienation has come to be viewed as one of the many social ills calling for research and policy development.

The distasteful shape that work has assumed under the drive for automation and increased efficiency has led to complaints of monotony, lack of worker control over the pace or content of the job, worker's inability to find meaning in the restricted range of tasks assigned to him. Finer and finer division of labor, applauded by Adam Smith and perfected by two centuries of efficiency experts, have allegedly robbed work of any breadth and workers of the satisfaction of workmanship.

Education and policy's roles

To break into the lock-step of education in youth, work in middle age, and leisure thereafter, what are educators prepared to do? Is it realistic to speak of a different allocation of time—one in which the value of both work and leisure are heightened?

Given the necessity for earning a living, higher education must continue to provide some basis for subsequent career development. To the degree that education is for all of life, however, and not merely for work preparation, we should be able to develop more useful patterns. Institutions need to be altered, along with the time sequence.

Eight-hour days, 50-week work years, automatic withdrawal from work at a specified age—these are not immutable laws! Some have suggested, for instance, that between full-time employment and retirement there should be a third alternative called "job sharing" in which two part-time workers share one full-time job.

Changing the timing of education and work is of course only a part of the challenge. The end toward which learning is directed—if it is directed at all—is also under scrutiny. To keep in mind the broader functions of education, society should remember the contributions educated persons make to community life, to full participation as citizens, to human welfare in total. Undercounting the value of education's help in these areas limits the gains from education to a dollar figure which, though substantial, is but one component and possibly not the most important.

Public policy in areas other than education must also be considered. How is the society to increase its productivity and thus provide a wider range of work-leisure options for people of all ages?

Institutional arrangements pose barriers. Customary arrangements for work dictate the limits of one's contribution at some times and prevent any work at all in other life stages. Conventional notions as to which work is appropriate for youth, which for older people, or minorities, have retarded job mobility and productivity.

Some of these constraints can be removed as society's views shift. Some of the economic restrictions are relaxed in time, as well; technology improves, capital can grow, new resources are discovered.

But at any stage in an economy's development, significant improvements for one group are likely to be made only at the expense of another. Distributive arrangements reflect an implicit decision as to the desired level of equality, or a perceived need for income differentials in order to stimulate productivity, or some compromise between what is thought to be equitable and what is thought to be efficient.

A system that provides greater rewards to workers than to retirees is accepted in a free market economy; indeed, the existence of income differentials is considered a requisite for the market's operation. As the numbers of retirees has grown, however, extreme differences have come into question.

Public policy designed to lengthen working life and spread earnings over a greater portion of adult life minimizes the problem of income transfers from workers to nonworkers. It is not surprising therefore, to find serious discussion of postponing the age of eligibility for social security benefits in order to ease the financial burden of providing for retirement.

By contrast, attempts to solve unemployment for young and middle-aged workers by lowering retirement age augment the problem.

Clearly, a life-cycle approach to the allocation of work, income, and leisure would enlarge our perspective and prevent the sharp transitions as we go from one life stage to the next.

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Energy Digest

'FILL THE BATTERY AND CHECK THE COMPUTER' . . . Two future electric cars—one featuring a "flywheel" for better acceleration and the other using unique electronic controls—are to be built for the Energy Research and Development Administration. ERDA has selected General Electric Co. and AiResearch Manufacturing, Torrance, California, to build the four-passenger vehicles over the next two years. They are designed for stop-and-go urban driving. The vehicles would have a range in city driving of 75 miles before the batteries need recharging and would be capable of cruising speeds of 55 miles per hour. Both cars will be equipped with matchbook-sized micro-computers which will manage the energy flow from battery to motor. Costs to buy and operate these cars, if mass-produced, would be competitive with conventional autos.

MESSAGE GETS ACROSS . . . The cold winter, coupled with high fuel costs and strong government pleas for energy frugality, have apparently combined to get the energy conservation message across to American consumers as never before, according to a special survey conducted for the Federal Energy Administration. A Gallup poll of 1,013 comsumers taken during the height of last winter's severe weather indicates that about one-and-a-half times as many people said they set their thermostats back this winter as compared to the previous two winters. Two-thirds of the people living in states east of the Rocky Mountains said they reduced the temperatures inside their houses during the worst of the winter. Of those who did not reduce their home temperatures, about 25 percent reported that they already had lowered their thermostats all they could.

SOLAR PROJECTS LISTED . . . A list of solar energy projects being undertaken by both government and private industry has been researched and published in the Spring issue of Solar Utilization News. Covering solar contracts in all 50 states, the report lists facts and figures on about 200 different solar energy contracts. A sample copy of the current issue is available by writing to S.U.N., 121 Chestnut St., Philadelphia, Pa. 19106.

PILOT INTEGRATED PLANT . . . Five ERDA contracts have been awarded for preliminary design and analysis which could lead to construction and demonstration of a grid-connected Integrated Community Energy System (ICES). An ICES plant would produce heat and electricity, with the electricity connected to the local utility's distribution network and the heat used for domestic hot water and space heating and cooling for buildings in the plant's vicinity. One or more of the proposed designs will be selected for subsequent work, including construction and demonstration of an ICES plant.

PERKING THROUGH WINTER . . . A new solar hot water heating installation in Pueblo, Colorado, functioned perfectly through its first winter. The system provides hot water for five publicly-owned dwellings, and was designed by a local architectural firm to use only components available in the commercial market. It incorporates a thermostatically-controlled, pressure-vented method to protect against internal scaling, and freeze damage. Pueblo's domestic solar hot water system was designed to provide at least 40 percent of winter needs, and 75 percent of summer needs. These are conservative estimates which the system has exceeded consistently since it went into operation last September. The system was built as a demonstration project for the Department of Housing and Urban Development, at a total cost of less than $20,000.

DISTRICT HEATING . . . An 18-month mathematical computer study of the Minneapolis-St. Paul area will attempt to find out whether technical information learned about district heating as a way to conserve energy in Sweden can be applied to U.S. cities. District heating is the use of waste heat from large central power plants to warm a number of buildings or even a city as a more efficient method of using fuel than having a great many scattered heating units. The principal method being considered is co-generation—producing both electric power and process heat from a single plant.

REQUESTS OIL RECOVERY PROPOSALS . . . ERDA is requesting cost-sharing proposals for a field demonstration project to recover oil by a process called micellar polymer flooding. The process has a good potential for producing additional oil from reservoirs already depleted by primary and secondary production methods. Proposers are being asked to identify a candidate reservoir where the recovery operation could be expanded beyond the five-year field demonstration. Inquiries should be addressed to Gary Peterson of ERDA's San Francisco Operations Office (415-273-7951).

Give-And-Take Sessions Help Dissolve Mistrust

BUSINESS-CONSUMER SEMINAR SERIES PROVIDES FORUM FOR IMPROVING RELATIONS; NEXT IN NEW YORK MAY 19

After polishing the act in eight out-of-town engagements, Commerce's Ombudsman is ready to take his business-consumer relations seminar series into the Big Apple.

Begun last year as part of the Department's consumer affairs program to build a better relationship between businessmen and their customers, the meetings are scheduled at community request, and are sponsored jointly by the Department through its field offices and local organizations. Seventeen local groups will be represented at the New York meeting which is scheduled for May 19 at the Statler Hotel.

Commerce Ombudsman John T. Kearney recalls that President Kennedy in 1962 committed his administration to a program of consumer protection featuring four basic rights: the right to choose; the right to be informed; the right to safety, and the right to be heard. These seminars attempt to continue that commitment.

At the most recent meeting, in Miami Springs, Fla., Kearney admitted that although "The majority of businessmen still try to satisfy their customers' needs, the combination of longer lines of communication from producer to vendor, the complexity of our national distribution system, the rising expectations of the consumer and the problems that frequently develop in getting employees to adopt the same concern for customers as the manager or owner, often add up to an exasperating situation for the well-intentioned businessman and a frustrating experience for the dissatisfied customer . . .

"We hear time and again that the businessman just won't listen or respond. Through our program of business-consumer relations seminars, we are trying to address this problem of unresponsiveness, misunderstanding or lack of communication between the businessman and the consumer. We firmly believe that voluntary responsiveness on the part of business will not only serve the consumer directly, but that it can also contribute indirectly to reducing the amount of consumer legislation being developed."

Kearney recalled that Jack Strauss, whose family established R. H. Macys and other retail businesses, said on one occasion that he felt Macys could double its business volume if sales clerks could be persuaded to pay more attention to the customers.

One of the major activities of the Consumer Affairs Division is answering inquiries and complaints, which now run at about 2,500 a year. The Division assists consumers by conferring directly with them or referring them to local resources for help, such as local government agencies, small claims courts, consumer action panels, or the like.

"We have been quite successful," Kearney said, "in resolving complaints where the consumer's own efforts or those of a local agency had failed. Through processing these complaints, we are continually made aware of the real heart of consumer dissatisfaction, the product that didn't perform, the order that didn't arrive, the repair that didn't correct the problem . . ."

Breakdown in communications

"It may be assumed that consumers have turned more and more to government because of the breakdown of communication between business and consumer.

"Clearly, advances have been made, and abuses have been corrected. Many hazardous products have been made safer or eliminated from the market. Enormous amounts of consumer information are now at our disposal which were not around even a few years ago. And yet it seems that for every problem solved, three or four new ones appear.

"Public opinion surveys continue to indicate an alarming degree of hostility and suspicion toward business and our private enterprise system itelf. Many consumers still feel themselves at a disadvantage in the market place . . .

"It is generally thought that government's role will continue to grow, that more and more laws, programs, and agencies will be needed to help consumers get full value for their money . . .

"It is anticipated that business will likewise turn to the Federal Government for regulations at the national level to pre-empt the many state and local laws which are resulting in a lack of uniform standards under which to operate . . .

"I believe there will be a closer analysis in the future of the costs of consumer protection versus its benefits, costs of compliance for the businessman, and costs of administering the laws for government. Because who pays for all of these things? We do, both as consumers and as taxpayers.

"Therefore, it will be more important than ever for business and industry to strengthen the practice of self-regulation and to respond voluntarily to the needs of the consumer. It will be imperative for business and consumers to learn to communicate, and to actively pursue trade-offs and compromises.

"I believe that this will result in consumers having to assume a greater share of responsibility for their own health and safety, and for the economic consequences of their decisions in the market place," Kearney stated.

"Finally, it will be a time for consumers to obtain more open access to business and government, to participate more fully in the decisions which affect the lives of all of us. Collectively, we can hope that such measures will serve to restore our faith in government, in business, and in our private enterprise system which after all has made us the consumers we are today."

Thomas K. Petersen, administrative assistant to the State Atorney for the Eleventh Judicial Circuit of Florida, said consumer fraud is a $40 billion business nationwide, and that Florida's share of this total is in excess of $2 billion.

"The need in Florida today," he said, "is not for enactment of more legislation. Rather, the immediate need is for effective enforcement and creative utilization of the consumer legislation which already exists."

Molly Sinclair, consumer writer for the

Miami Herald, gave the following examples of healthy consumer-businessman relationships:

"When the consumer gets a square deal on prices and product. When he buys a new suit of clothes, then discovers a hole in the pocket, and when he returns it to the store the businessman replaces it with a smile instead of a snarl. When there's a billing error on a charge account and the store makes the correction quickly and willingly and then apologizes for the incident. When a special sale is running and the business makes certain you get the item you want instead of being out of the sales merchandise but just happening to have on hand a supply of other more expensive products."

She gave the following examples of when relations between seller and buyer are not so friendly:

Your new television breaks and nobody has the parts needed to fix it. You get a brochure on specials at a department store, and when you try to buy the dress or suit shown in the brochure the store doesn't have it, and the clerks have never seen it in the catalog and don't expect to get any like it; you see an ad in the paper for a sale of scissors, but when you try to buy the pair you want you find that the ones on sale are not the ones you saw; and when you ask what is wrong the clerk haughtily brushes you off; you pay $50 for a canvas suitcase which is torn the first time you travel with it on a plane, the airline repairs the tear with glue, and your new suitcase now looks like a Salvation Army reject.

She said the consumer doesn't always have clean hands, and cited the following examples:

The woman who opens the cottage cheese in the grocery store, and then returns it to the shelf. The auto buyer who is never satisfied with the way his new car runs and takes it back to the dealer over and over again until the dealer is sorry he made the sale. The well-to-do matron who charges a fancy dress on her account, wears it to a party, and returns it to the store the next day, saying it isn't suitable.

Consumers more aware

Molly Turner, television consumer specialist, said more and more consumers now are aware of their rights in the market place but many are still so brainwashed by the old dictum "caveat emptor" that they feel if they are stung they should have known better.

"Get the level of frustration great enough," she said, "get enough people bugged about the price of coffee and a car that won't run and a roof that still leaks, get enough people hot under the collar, and you set the stage for some spellbinder, dictator-type to come along and promise to take care of all these things, and people believe it because they can't cope any more with the complexity, the deception, suspicion, and hostility.

"The first thing you know, capitalism and democracy could be down the tube . . .

"I think it's imperative that we change the climate, that business begins now to take better care of the consumer, to serve him fairly, honestly, promptly and at a reasonable price.

"The consumer is not perfect, and you don't have to love him. But he's all you've got, and you do have to give him a square deal. It's in your own best interests.

"Otherwise, the growing frustration and anger is going to erupt into a barrage of punitive anti-business laws that will make Uncle Sam your unwelcome but permanent partner."

NATIONWIDE MEETINGS GUIDE BUSINESSMEN ON SPECIFIC ENERGY TOPICS

More than 2,000 senior corporate officers and 12,000 managers from firms throughout the country are expected to attend the more than 600 conferences and workshops scheduled by the Federal Energy Administration this year to help businessmen save energy.

Co-sponsored by the various state energy offices, there are four basic types of meetings: executive conferences, and workshops on vanpooling, industry plant management, and buildings.

Within the commercial building sector, separate workshops focus on energy conservation in office buildings, supermarkets, retail stores and restaurants.

A number of national professional associations and trade organizations also are participating in the workshops, which focus on management, organization and motivation for energy conservation more than on technical details.

As the program picked up momentum, a total of 46 workshops was held in March in major cities such as Atlanta, Boston, Chicago, Dallas, Philadelphia and San Francisco, and in smaller communities such as Cherry Hill, N.J.

One hundred executive conferences are planned, each limited to about 25 chief executives and other senior officers. The nation's energy outlook and the effects of energy resource issues and national energy policy on corporate performance and planning will be examined. These conferences also will provide an opportunity for direct and informal discussions between senior business executives and high-level FEA officials.

More than 500 full-day workshops, also limited to about 25 participants each, will focus on specific aspects of conservation management and will be attended by operating-level managers.

There is no charge for the sessions.

A series of 190 industrial workshops is designed for manufacturing plant managers, plant engineers or staff energy specialists. These workshops cover matters such as: conducting energy surveys; identifying conservation opportunities; determining acceptable payback on investments for energy-saving projects; setting efficiency goals; organizing to meet goals, and, monitoring progress.

The series of 140 buildings workshops is intended to help owners and operators in office buildings, restaurants, supermarkets and retail stores develop energy management plans.

The third and final series of 190 workshops deals with vanpools, a form of ride sharing, and these discussions are keyed to company general managers or officials in administration, personnel or transportation.

Vanpooling, like carpooling, is a system for group riding to and from work. It differs from carpooling in that employers usually lease or own the vans and as many as 12 commuters who live close to each other ride together in vans driven regularly by one of the commuters. Though a relatively new concept, vanpooling is a proven, energy-efficient and cost-effective means of commuting to work.

For more information about the program or the workshop schedules, contact the nearest FEA regional office or write: Conservation Workshop Program Office, FEA, Washington, D.C. 20461.

What's In A Name? Plenty, Say 205 Firms

A record number of 205 U.S. corporations adopted new names in 1976, an increase of 32 percent over 1975, according to Schechter & Luth, a design firm that conducts an annual survey of corporate name changes.

The principal reasons given for such changes were that the old name was no longer appropriate for the introduction of new products or the name was geographically restrictive. Other reasons included the opportunity to link parent to subsidiary, mergers, or the adoption of a new company structure. In 46 percent of the changes the new name had previously been employed within the corporation or in an operating unit or as a brand name.

The most difficult problem encountered was legal clearance because of the increasing difficulties in finding names that are both suitable and legally available.

Out of the total of 205, some 21 companies adopted acronyms. 13 chose initials and five discarded initials to turn to more personalized designations.

U.S. TUNA FISHERMEN SET TO SEA AS PERMIT DEFINES PORPOISE LIMITS

U.S. tuna fishermen are once again setting out to sea, under a recently-issued Commerce Department general permit clarifying the restrictions on the incidental killing of porpoises in their nets.

The permit has been issued to the American Tunaboat Association, by Commerce's National Oceanic and Atmospheric Administration (NOAA) on behalf of all U.S. yellowfin tuna fishermen. It is valid until the end of this year.

Issuance of the permit is the latest action in the controversy over the killing of porpoises in the course of tuna-fishing, particulalry the so-called "eastern spinner." The permit applies to yellowfin tuna purse seining operations in the Eastern Tropical Pacific.

Under the permit, no more than 59,050 porpoises may be killed in 1977, a 24 percent reduction from 1976.

Since March 14, yellowfin tuna fishermen have been allowed to fish on porpoise under a court order which allowed them to kill up to 9,972 porpoises until a new permit was issued. However, they were prohibited from taking any eastern spinner and whitebelly porpoises. The new permit allows them to kill up to 7,800 whitebelly, but the prohibition on the eastern spinner remains. Those already taken will be counted as part of the total allowable kill for 1977.

Experts of the National Marine Fisheries Service (NMFS) say the eastern spinner's name is derived from its habit of making spectacular leaps into the air and spinning around while doing so.

NMFS experts explain that a species is rated as depleted if among other criteria the stock drops to less than 60 percent of the historic population.

The permit for restricted fishing was issued in compliance with regulations proclaimed March 1 under the 1972 Marine Mammal Protection Act, forbidding U.S. fishermen engaged in yellowfin tuna purse seine fishing operations from setting nets around mixed schools containing eastern spinner, Costa Rican spinner and coastal spotted dolphins.

A clarification subsequently issued allows a tuna-boat captain to begin a set if he is satisfied that the school doesn't contain eastern spinner, but if eastern spinner are thereafter sighted and accidentally encircled or killed in the course of completing the set this will not be cause for issuance of notice of violation.

The number of eastern spinners encircled or killed will be recorded and the new policy will be reviewed periodically for its effiectiveness.

Since there are times when it is unavoidable, the regulations provide for general permits allowing fishermen to take marine mammals incidental to their commercial fishing operations.

Other conditions require, among other things, that U.S. commercial fishermen take special measures and use special fishing gear to avoid seriously injuring or killing marine mammals in fishing.

Commenting on the permit, Secretary of Commerce Juanita M. Kreps pointed out that the Commerce Department is bound by the provisions of the Marine Mammal Protection Act, and that its discretion is severely limited by law.

Under the law, she explained, no species can be taken if it is depleted. Accordingly, she said, tuna fishermen cannot intentionally take eastern spinner porpoises when fishing, but can incidentally take limited numbers of other species and may also fish for tuna not in association with porpoise.

"Finally," she commented, "the Department's enforcement policy with respect to eastern spinner porpoises will be directed only to intentional takings. Penalties will not be imposed for the accidental taking of small numbers of eastern spinner porpoises. This enforcement policy, which I believe is reasonable, should facilitate fishing by the tuna fleet.

"I am heartened by the fact that two vessels are already at sea fishing under the new regulations, three more are preparing to leave this weekend (April 23), and 175 captains have taken refresher courses in porpoise protection."

"And granted," she said, "there is always the question of interpretation. What is a small number? What is accidental? I don't know how we could have made it any more open than that, given the Marine Mammal Protection Act and the finding that the eastern spinner is indeed depleted."

A questioner said the tuna industry wanted to be able to take 6,500 eastern spinners this year, and asked if this would be an acceptable number. Homer Moyer, Deputy General Counsel for Commerce, said that, with respect to an intentional quota, "we are prohibited by law from having a quota of any number."

Business Mergers In 1976 Remained Near 1975 Level

There were 2,276 business mergers in the U.S. during 1976, according to W. T. Grimm & Co., a merger consulting concern, a decline of less than 1 percent from 1975's 2,297. The firm attributed the decline in the second half of 1976 to the recent economic pause.

Figures released by the Federal Trade Commission compare 1974-75 merger statistics by reporting that 1,805 mergers occurred between sizable firms in 1974 and only 1,228 took place in 1975. Conglomerate mergers, however, increased from 28 to 50.

Hydrogen Called Good Industrial Fuel, Despite Explosive Reputation

Can hydrogen be safely stored and used as a commercial fuel? The answer is a qualified "Yes" according to a new publication of Commerce's National Bureau of Standards (NBS). For those who remember the Hindenburg, that is reassuring news.

Hydrogen, because it burns cleanly and is quickly returned to the environment, has often been proposed as a good synthetic fuel to take the place of less abundant ones such as gasoline or natural gas. One of its major drawbacks is its reputation as an explosive that was firmly fixed in the public mind by the Hindenburg disaster in 1937.

Is Hydrogen Safe? by Jesse Hord of NBS's Cryongenic Division is a systematic examination of the comparative safety of hydrogen, gasoline and methane, the major component of natural gas. Hord concludes that all three fuels can be safely stored and used, but that the amount of risk for each depends on the particular application, and should be tested in advance.

Although hydrogen would present users with a set of new and unfamiliar hazards, Hord finds that though the three fuels have different characteristics, no one is preferable to the other two for safety. The danger of a fuel-air explosion when the fuel is released in a confined space is greatest for hydrogen, but there are a number of preventive measures that can significantly reduce the danger of explosion for all three.

Based on a review of more than 80 published sources and some unpublished research, Hord examines the hazards and possible damage caused by fire or explosion of all three fuels, compares storage methods, and discusses some possible uses for hydrogen.

Hydrogen has been successfully used in some industries for years, though not always as a fuel, and can in theory be used to fuel ships, planes, trucks, buses, trains and automobiles. Home appliances and furnaces can also be made to run on hydrogen gas and in fact hydrogen-enriched gases have been successfully used in Europe as residential fuels.

In addition to a table comparing 63 physical properties of hydrogen, methane and gasoline, Hord's work provides a bibliography of federal and private guidelines for the safe storage and handling of hydrogen, and a reference index of mandatory federal regulations on transporting hydrogen as a gas or liquid.

Published as NBS Techniacl Note 690, *Is Hydrogen Safe?* (C13.46:690) is available for 85 cents from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

AFFIRMATIVE ACTION—*Women accounted for 51 percent of the net increase in jobs in the 30 major U.S. shipyards during 1976, and minorities accounted for 41 percent. The greatest gains for women were in blue collar jobs: welders, shipfitters and electrical workers.*

Women, Minorities Find Doors Opening To Shipyard Employment

If a shipyard worker refers to a "she", it may not be the ship he's talking about now. The employment of women in the shipbuilding industry has reached new highs at the start of 1977, as has that of minorities.

Maritime Administration figures show that in the 30 shipyards representing 80 percent of the U.S. industry's workforce, employment rose to a total of 126,412 in January 1977, from 124,291 in January 1976.

Women accounted for 1,087 (51 percent) of the net increase of 2,121 jobs. Minority workers accounted for 878 (41 percent) of the net increase.

Women posted the most dramatic gains in blue collar jobs, such as welders, shipfitters, and electrical workers. At the beginning of the year they held 4,920 blue collar jobs, representing 5.4 percent of the blue collar workforce. As points of reference, a year earlier women held 4.7 percent of these jobs, while in 1969 women possessed only 0.2 percent of the blue collar jobs.

Minority employment also has increased. At the start of 1977 minorities represented 28.1 percent of the industry's workforce, up from 27.9 percent in 1976 and from 19.6 percent in 1969. In white collar jobs, minority employment reached 11 percent in 1977, more than doubling the 4.1 percent representation in 1969. Minority employees constituted 31.4 percent of skilled crafts workers in 1977, up from 17.7 percent in 1969.

Since 1969 total employment in the U.S. shipbuilding industry has increased by 14,965 employees. Total female employment in that period increased by 6,304, representing 42.1 percent of the gain; employment of women in blue collar jobs increased by 4,708; and minority employment increased by 13,709, representing 91.6 percent of the net gain in employment.

The statistics are updated annually by the Maritime Administration, which since 1969 has served as the compliance agency for the Commerce Department to ensure implementation of the equal employment opportunity requirements of Executive Order 11246, as amended. This order requires that government contractors not only refrain from discriminating but also take affirmative action to assure minorities and women access to all jobs.

Alaska Natural Gas Seep Could Give Advance Clue To Oil Leasing's Impact

Nature is giving scientists with the National Oceanic and Atmospheric Administration and the U.S. Geological Survey an advance look at the possible environmental effects of tapping Alaska offshore oil deposits through what is believed to be a gas seep on the floor of Norton Sound—in effect a natural source of petroleum hydrocarbons.

Dr. Joel Cline of NOAA's Pacific Marine Environmental Laboratory has found an area in the Sound with unusually high concentrations of natural gas components. He and Dr. Mark L. Holmes of the Geological Survey believe the gas seeps upward from a deposit of petroleum beneath the floor of the Sound.

Such a seep would more than confirm the richness of the area's resources; it would allow scientists to measure the effects of petroleum introduced into Alaskan waters before offshore oil drilling and transportation actually begin.

The possible seep was found in an area Cline had been surveying to provide environmental data that managers can use in predicting the impact of oil leasing on the Alaskan continental shelf.

Chemically, the natural gas in the waters of Norton Sound appears to be similar to the kind used in stoves and furnaces, says Cline. He and Holmes believe that after percolating upward through the sediments, the gas rises to the surface of the water in bubbles.

Hydrocarbons in the water could originate in a number of ways. Methane, or marsh gas, for example, is produced biologically, by microbes. But both chemical and geological evidence led Cline and Holmes to the conclusion that the hydrocarbons in Norton Sound may be associated with a deep-seated liquid petroleum deposit. The basin floor in the area is cut by faults that would allow gas locked below the surface to leak to the sea floor. The chemical composition of the hydrocarbons also suggests that they are related to a deposit of liquid petroleum, rather than natural gas.

Submarine seeps of oil or gas are not unusual, Cline and Holmes note, but few have been thoroughly studied. The possible Norton Sound seep, located in an area being considered for oil development, is an ideal candidate for intensive study. Cline hopes to make another exploration of the area in the summer of 1978.

New Center Provides Federal Computer Program Exchange

Two Federal Government agencies have teamed up to reduce costs of computer programs throughout the government by establishing a Federal Software Exchange Center. The Center, a joint venture of the General Services Administration's Automated Data and Telecommunications Service and Commerce's National Technical Information Service, will provide nonclassified and nonproprietary computer programs.

The Center, which will be located in Springfield, Va., will be administered by the GSA Service and operated by NTIS. It will catalog computer systems support programs, simulators and business management application programs. No information files, data bases, private or personal data will be included in the exchange.

NTIS is presently inventorying government computer programs that could be of use to other agencies. For example, programs to simplify payroll or personnel actions could save much duplication of effort if exchanged.

The federal agencies will provide short summaries of their current computer programs, and NTIS will compile these into a catalog to be updated on a quarterly basis. Agencies needing new software must search the catalog for an appropriate program and certify that they have been unable to find one before they will be allowed to seek outside sources. The Center will acquire any software desired by an agency, complete with all available documentation.

Further information about the service can be obtained from the Federal Software Exchange, National Technical Information Service, Springfield, Va. 22151.

ENERGY INVENTORS CAN GET HELP AT EXHIBIT

Information on how to get government support to develop a new energy-related concept or product will be available at the 1977 National Plant Engineering and Maintenance Show and Conference in Chicago, May 9-12.

The exhibit, sponsored by Commerce's National Bureau of Standards, will feature a free evaluating service for inventions that will save energy or help increase energy supplies. The service is aimed particularly at inventions by individuals and small businesses and can be a significant first step for the "little guy" to take to get government support.

Inventions found to be technically and commercially feasible will be recommended by NBS's Office of Energy-Related Inventions to the Energy Research and Development Administration for development or other support.

Since the program began nearly two years ago, NBS has received close to 5,000 inventions for evaluation. About 2 out of every 100 evaluated are expected to be recommended to ERDA.

The exhibit will have a slide show on what the program is and how it operates, as well as application forms for submitting an invention, brochures, and other explanatory material. The exhibit will also feature information on other energy-related research programs at NBS, including solar energy and energy conservation in buildings, industry, communities, and appliances. Homeowner booklets on how to save energy in heating and cooling will be available free.

The NBS exhibit will be located in Booth 1086 in McCormick Place. It is one of more than 600 exhibits on products designed to increase plant operating efficiency and reduce maintenance costs. The National Plant Engineering and Maintenance Show and Conference is held concurrently with the Design Engineering Conferences sponsored by the American Society of Mechanical Engineers.

Quality Control Papers On 89 Topics Available

Eighty-nine complete papers emphasizing the theme "Productivity with Quality—Today's Challenge" are available in the Transactions of the American Society for Quality Control 31st Annual Technical Conference, scheduled for May 16-18 in Philadelphia. Topics covered include: what to watch out for in trying to motivate employees—what doesn't work and why; a recommended change of direction for implementing technology assessment; how to decide when to service or replace equipment; an appraisal of benefits, costs, rewards and problems encountered in going metric; a final inspection data program used to determine quality level; the use of quality control in service industries (e.g., banking, health); management's commitment to product liability prevention; and many others, as they concern various industries and businesses.

The 628-page book is available from ASQC, 161 W. Wisconsin Ave., Milwaukee, Wis. 53203; (414-272-8575). $9 (members), $13 (others). Orders must be prepaid.

New England Coastal Center To Set National Pattern

A network of coastal information centers for planners, marine resource managers, scientists, and the public will soon get its start with the establishment of the New England Regional Coastal Information Center, located at the University of Rhode Island's Pell Library on Narragansett Bay.

Funds for the new service come jointly from three Commerce units: the Office of Sea Grant, Office of Coastal Zone Management, and the Environment Data Service; as well as the University.

The New England center will be a prototype for a system of highly specialized facilities in as many as eight other locations on the Great Lakes and along the Atlantic, Pacific, and Gulf coasts.

The centers will allow members of state agencies, coastal planners, legislators, environmentalists, and the general public to obtain information and guidance on coastal area subjects, including laws and zoning regulations, scientific data, and sources of publications.

Non-Destructive Testing Explained To Industry

A new brochure describing the Nondestructive Evaluation Program (NDE), of industrial materials and techniques at National Bureau of Standards is now available. The Bureau's NDE program was formed in mid-1975 to assist industry and other government agencies in improving the reliability of materials and structures through standardized NDE measurements.

The role of the NDE program is to help industry develop methods for accurate and reproducible NDE measurements. This includes technical investigations of standards, characterization of instruments, development of improved techniques, and the assessment of the meaning of the NDE measurement on materials performance.

The brochure describes the program's objectives and present technical program; also listed are some NBS publications available on NDE. For a free copy write to Harold Berger, Manager, Nondestructive Evaluation Program, Materials Building A363, National Bureau of Standards, Washington, D.C. 20234.

Travel Shows Promote Tourism From Australia

Australian tourists have been coming to the United States in increasing numbers, and Commerce's United States Travel Service (USTS) is giving them all the encouragement it can.

To that end, USTS recently scheduled a three-day VISIT USA Travel Show at the U.S. Trade Center in Sydney. More than 3,500 potential tourists and members of the travel industry attended the show, which was cosponsored by the U.S. Consulate General in Sydney and the Australian VISIT USA Committee.

Organized by the travel trade, the show was designed to bring travel agents and tour packagers up to date on the latest U.S. transportation, lodging facilities and other travel components. Among the 23 exhibitors representing the United States were tour organizers and companies providing accommodations, air and surface transportation.

One exhibitor reported that he expected sales for his company to reach at least $50,000 and perhaps $100,000 as a result of participating in the show. Another said he conducted a year's worth of business in three days by making the equivalent of 400 sales calls as he talked with visitors who stopped at his boot'i.

More than 350 travel industry personnel attended a seminar series that included such U.S. travel subjects as visa requirements, inter-city coach travel, sightseeing opportunities, hotel accommodations and domestic air travel.

A Melbourne VISIT USA Orientation cosponsored by the U.S. Consulate General in Melbourne and USTS followed the Sydney Travel Show. Nearly 600 retail travel agents attended at least one of the two evening programs, which included booths by 24 exhibitors and a presentation by USTS.

In 1976, nearly 170,000 Australians traveled to the United States, or one percent of the continent's entire population, making it the fifth largest supplier of visitors to the United States from overseas countries. The forecast for 1977 is a 25 percent increase.

Trademark Applications Zoomed Above 40,000 In '76

Trademark applications filed in 1976 with Commerce's Patent and Trademark Office broke all previous records with 40,117 applications, an increase of 5,147 over the 1972 record. The increases were evident in all classes, indicating an improvement in general economic conditions.

Other office actions showed decreases from 1975 figures, however, with registrations dropping by 1,723 to 29,208, and abandonments down 1,210 to 9,695.

Reports List Population, Per Capita Incomes Of States, Counties And Towns

A series of reports with 1975 population and 1974 per capita money income estimates for states, counties and incorporated places, is now being issued by Commerce's Bureau of the Census.

The series is the second set with such data; an earlier one, issued two years ago, had '73 population and '72 per capita income figures.

Each state report in the new series has data not only for 1975-'74 but comparative figures for 1973-'72 and the figures from the most recent census: 1970 population totals and 1969 per capita income totals.

The reports for Arizona, Delaware, Hawaii, Maryland, Nevada, New Hampshire, New Mexico, Rhode Island, Utah and Wyoming have been issued. Reports for the remaining states will be released as they become available.

The reports are part of Current Population Reports, Series P-25, and will be published as Numbers 649 (Alabama) through 698 (Wyoming) and concluding with a U.S. summary, No. 699. Individual reports are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or from Commerce District Offices in major cities.

Booklet Revisions Reflect Progress In Metric Changeover

Commerce's National Bureau of Standards has revised and updated one of its most popular consumer-oriented guidebooks about the metric system.

What About Metric? gives the reader a basic, non-technical primer on the metric system of measurement that is coming into increasing use in the United States. The present version represents the first major revision since it was first printed in 1973. That version has sold almost 120,000 copies.

The revised *What About Metric?* incorporates changes resulting from passage of the Metric Conversion Act of 1975, which established the voluntary changeover to the metric system as national policy.

Simple explanations of everyday metric units are supplemented by three common weights and measures problems that illustrate the advantages of using the decimal-based metric system instead of the English system Americans are used to. The booklet also explains how the metric system will be used at home, in the marketplace and on the job.

Copies are available for 35 cents each from the Consumer Information Center, Pueblo, Colo., 81009.

Calendar Of Business Events

May 10-11—Miami—Animal Air Transportation Assn. Second National Meeting, Ramada Inn-Int'l Airport. Contact: AATA, 5351 S. Roslyn St., Englewood, Colo. 80110 (303-779-1400).

May 11-12 — Los Angeles — Marketing Chemical Coatings for Profit, Los Angeles Mariott Hotel. Contact: Georgene Savickas, Nat'l Paint & Coatings Assn., 1500 Rhode Island Ave. NW., Washington, D.C. 20005 (202-462-6272).

May 11-13—Los Angeles—Update '78: 2nd Annual Conference on Contract Mgt., Hyatt House Int'l. Contact: American Institute of Aeronautics & Astronautics, 444 W. Ocean Blvd., Suite 1403, Long Beach, Calif. 90802 (213-437-7465).

May 13—Inglewood, Calif.—Federal Procurement Conference, Airport Park Hotel. Sponsor: U.S. Rep. Yvonne Burke. Contact: Perry C. Parks, Office of Rep. Burke, 1 Manchester Blvd., Inglewood 90306 (213-678-5424).

May 14—Akron—Women and Economics, U. of Akron. Contact: Institute for Civic Education, U. of Akron (216-375-7575).

May 15-18—New York—N.Y. Stationery Show, N.Y. Coliseum. Contact: Irene Weissman, George Little Mgt., Inc., 261 Madison Ave., N.Y. 10016 (212-986-4700).

May 16-17—Chicago—Estimating & Controlling Manufacturing Costs Seminar, Palmer House. Sponsor: N.Y.U. Contact: Heidi Kaplan, N.Y. Mgt. Center, 360 Lexington Ave., New York 10017 (212-953-7262).

May 16-17 — St. Louis — Metric Mgt. Workshop, Chase Park Plaza Hotel. Contact: American Nat'l Metric Council, 1625 Mass. Ave. NW., Washington, D.C. 20036 (202-232-4545).

May 16-17—Washington—Conference on Product Liability Solutions, Hyatt Regency Hotel & Russell Senate Office Bldg. Contact: J. Gehbauer, MACC II Conference, c/o Sporting Goods Mfrs. Assn., 200 Castlewood Rd., N. Palm Beach, Fla. 33408 (305-842-4100).

May 16-18 — Gaithersburg, Md. — Corrosion & the Building Industry, National Bureau of Standards. Contact: Dr. Jerome Kruger, B254 Materials Bldg., NBS, Washington 20234 (301-921-2094).

May 16-18 — Philadelphia — 31st Annual Technical Conference, Marriott Hotel. Sponsor: American Society for Quality Control. Contact: ASQC, 161 W. Wisconsin Ave., Milwaukee, Wisc. 53203 (414-272-8575).

May 17-18 — Charlotte, N.C. — Flat Line Board Finishing Workshop, Radisson Plaza Hotel. Contact: Assn. for Finishing Processes, Society of Mechanical Engineers, P.O. Box 930, Dearborn, Mich. 48128 (313-271-1500).

May 17-19 — Andover, Mass. — Facsimile Update, Institute for Graphic Communication Conference Ctr. Contact: IGC, 375 Commonwealth Ave., Boston, Mass. 02115 (617-267-9425).

May 17-19 — Chicago — Mechanical Failures Prevention Group Symposium, IIT Research Institute. Contact: Harry Burnett, B260 Materials Bldg., Nat'l Bureau of Standards, Washington, D.C. 20234 (301-921-2813).

May 17-20—Dayton—Advanced Theory, Practice & Control of Injection Molding. Contact: CP Plastics Program, P.O. Box 59, Southington, Conn. 06489 (203-747-5213).

May 18-20 Philadelphia — Developing Effective Marketing Planning, Drexel U. Contact: Director, Continuing Professional Education, Drexel U., 32nd & Chestnut Sts., Philadelphia, Pa. 19104 (215-895-2154).

May 19 — Charleston, W.Va. — Energy/Productivity Conference on Mining, Heart-O-Town Motor Inn. Contact: Commerce Charleston District Office.

May 19—New York—Consumer-Business Relations Conference, Statler Hilton Hotel. Sponsors: N.Y. Chamber of Commerce & Industry and Commerce N.Y. District Office. (212-264-0611).

May 19 — Gaithersburg, Md. — Computer Security and Integrity—Trends and Applications: 1977, National Bureau of Standards. Contact: Dr. Marshall Abrams, B212, Technology Bldg., NBS, Washington, D.C. 20234 (301-921-3105).

May 19-20—Huron, Ohio—Metric Production Equipment, Sawmill Creek Lodge. Sponsors: Society of Manufacturing Engineers and American Nat'l Metric Council. Contact: Technical Div., SME, see address above.

May 21-25—Scottsdale, Ariz.—5th Structural Foam Conference & Annual Meeting, Camelback Inn. Contact: Society of the Plastics Industry, Inc., 355 Lexington Ave., New York 10017 (212-573-9400).

May 23-24—Arlington, Va.—Briefing Conference on Product Safety, Twin Bridges Marriott. Contact: Product Safety Letter, 1080 Nat'l Press Bldg., Washington, D.C. 20045 (202-EX 3-3830).

World Markets Reflect Renewed Trading Vigor

PURCHASES STIMULATED BY ECONOMIC RECOVERY; U.S. MARKET SHARE, HOWEVER, DECLINES IN MANY COUNTRIES

World imports expanded with renewed vigor in 1976 in contrast to the stagnant performance of the previous year. This is apparent in the latest compilations of *Commerce America's* quarterly World Market Report series. For most of the major trading nations, the value of goods purchased from the world increased by more than 10 percent, as shown in the accompanying table. Imports into the smaller developed nations and the developing countries, however, either advanced at a much slower rate than in 1975, or declined.

Though the majority of the foreign nations increased their value of imports from the United States, the U.S. share decreased in more countries than it rose; many countries imported greater amounts from the rest of the world than from the United States.

The value of world trade, measured in U.S. dollars, climbed to almost $1,000 billion, primarily reflecting rising real income in the industrialized nations. Most of the roughly 12 percent advance was accounted for by a greater volume of trade, since average prices rose by only about 1 percent. There were large increases in the prices of some major internationally traded commodities such as coffee, cocoa, rubber, and cotton. But prices of other key commodities, including sugar, wheat, and corn, fell sharply. While the prices of some manufactured products differed in 1976 from 1975 levels, there was little change in the average price of all manufactured goods in world trade. A further explanation for the small price increase in 1976 was the measurement in U.S. dollar unit values; the dollar appreciated by about 4 percent against world currencies last year, thus counteracting price rises to some extent.

Of the free world's ten largest trading nations, the U.S. market share of imports rose only in the Federal Republic of Germany in 1976. Among the other countries in this group, the U.S. share remained unchanged in three and declined in the remaining six. Similarly, there were more U.S. share declines than increases in the smaller developed nations. Only in the developing countries, which include both OPEC and non-oil-exporting nations for which partial 1976 trade statistics have been made available, did the U.S. share rises balance the declines.

The value of U.S. imports into Germany rose by 21 percent, surpassing increases in any of the other largest trading nations. This boost outpaced expansion from other sources and consisted largely of greater German purchases of U.S. defense material, electrical equipment and plastic products which more than offset decreased imports of aircraft.

The U.S. share in the import markets of the United Kingdom, Sweden and Canada remained stable as increased purchases of U.S. goods were matched by larger inflows of imports from other sources. The greater British demand for American products was paced by office machines, electrical machinery and corn, while accelerated demand in Canada for motor vehicle parts, electronic computers and office machines, and meats from the U.S. more than compensated for decreased entries of aircraft and aircraft parts.

Although Japan, Italy and the Netherlands increased their purchases of U.S. goods somewhat, the U.S. market share dropped as these countries expanded their import demand from other sources by more than ten percent. Japan, which is the third largest trader in the free world, recorded substantial declines in acquisitions of U.S. iron and steel scrap, coal and aircraft which were not matched by rises in chemicals, meats and raw skins. Paced by oil-seeds, animal feedstuffs and chemical products, the increased demand for U.S. products in the Netherlands was moderated, however, by falls in purchases of wheat, corn and aircraft. In Italy, large upturns in demand for American chemicals, textile products and precious metals helped to outweigh drops in wheat and cotton.

While the U.S. market share recorded losses in France and Belgium-Luxembourg in 1976, the value of U.S. imports into these two major markets rose by more than 10 percent. A substantial upturn in the arrival of U.S. motor vehicles, organic chemicals, power generators and office machines accounted for a large portion of the rises in the French market. Over half of the increase in the value of U.S. goods shipped to Belgium and Luxembourg is attributable to greater purchases of corn, tobacco, soybeans, coal and organic chemicals.

A majority of the smaller developed countries reported declines in the U.S. share position during 1976. Five countries, Switzerland, Greece, Portugal, Denmark and Norway, registered a share drop of at least 10 percentage points, although the value of U.S. imports into the two latter countries did increase slightly. In Portugal, where the value of U.S. imports as measured in U.S. dollars dropped by 26 percent, a sharp decline in imports of U.S. aircraft led sluggish demand for most other U.S. products. Increases in the arrivals of U.S. soybeans and non-electrical machinery into Denmark helped to offset drops in demand for tobacco and transportation equipment. Among all the developed countries, the only nations where the U.S. market share rose by more than a marginal amount was in the Republic of South Africa and Ireland. The advance in South Africa resulted mainly from a decline in imports from other sources but Irish demand for U.S. goods grew strongly in 1976 in nearly every commodity, especially for nonelectrical machinery, chemicals and food products.

Among those developing countries (LDCs) for which some 1976 trade data is available, the number of U.S. share increases and declines were about equal. The value of U.S. imports increased, however, in more than half of these countries. In Korea, Singapore, Turkey, Morocco and Taiwan, the U.S. trade share dropped by at least 15 percentage points. Despite large declines in Korean orders of American rice and

aircraft, demand for other products such as corn and electrical machinery rose sufficiently to increase the total value of U.S. imports into Korea slightly over that of 1975. A similar result occurred in Taiwan, another important LDC trader, where greater demand for electrical and non-electrical machines more than offset decreased arrivals of U.S. soybeans and cotton.

All those OPEC members which provided 1976 data reported increased demand for U.S. goods. The U.S. market share in Iran, which is the largest trader among the OPEC nations listed in the accompanying table, dropped 21 percentage points as import growth slowed. Indonesia was the only OPEC nation in which the U.S. share expanded.

Multilateral Trade Negotiations

This article is another in a series of progress reports on the multilateral trade negotiations, prepared by the Commerce Department Office of Int'l Trade Policy.

GENEVA

A major breakthrough in the work of the **NTM Subgroup on Standards** was achieved at the March 21-25 meeting with agreement on the long-standing problem of the definitions to be used in the draft standards code. This should bring progress on the text of the code.

Another major subject at this session was that of special and differential treatment for the developing countries, within the context of the standards code. No one approach, among several presented, appeared to have majority support. The United States has repeatedly questioned whether the area of standards is one in which special and differential treatment should apply. This issue will be further explored at the next meeting on June 27.

The **Nontariff Measures (NTM) Group** on April 20 again discussed the advisability of establishing new subgroups on antidumping and variable levies/minimum import prices. No consensus was reached. But the group agreed to discuss the antidumping problems of developing countries at its next meeting July 18.

The GATT Secretariat reported to this group that it is unable to compile a comprehensive, product-specific list of NTMs for inclusion in the GATT tariff rate information files. Available information, it was asserted, is too general for identification of NTMs at the tariff line level. If the project is to be carried out, the participating countries must supply additional tariff line item information. This matter will be discussed further.

The **MTN Agriculture Group**, in reviewing on March 29-30 the applicability of the draft standards code to agricultural products, agreed generally that such products should be covered. There was some questioning as to whether the scope of the code included issues unique to agriculture, such as animal and plant quarantine. There will be further review of the code at the next meeting.

MTN Schedule

The summer schedule in the multilateral trade negotiations:

Agriculture Group meets week of June 20, with schedule open for the three subgroups on dairy products, grains and meat.

GATT Framework Group meets in June and July.

Nontariff Measures Group meets week of July 18. Its subgroups meet as follows: Customs, open; Government Procurement, week of June 13; Quantitative Restrictions, week of July 4; Standards, week of June 27; Subsidies/Countervailing Duties, week of July 11; Technical Ad Hoc Group on Licensing, week of May 23.

Safeguards Group, week of June 27; Sectors Group, open; Tariffs Group, in June; Tropical Products Group, May 12.

World Market Report

The 50 markets shown below accounted for 88% of total imports into all free-world markets and 89% of imports from the U.S. in 1975

Values in millions of dollars — Published quarterly

Importing country	1975 Imports: From world	1975 Imports: From U.S.	1975 Imports: U.S. share %	1976 Imports January through latest month: Latest month	1976 Imports: From world	1976 Imports: From U.S.	1976 Imports: U.S. share %	Import change in latest 12 months*: From world %	Import change in latest 12 months*: From U.S. %
Germany, Fed. Rep.	74,208	5,749	7.7	Dec.	87,570	6,978	8.0	+ 18	+ 21
Japan	57,840	11,618	20.1	Dec.	64,893	11,864	18.3	+ 12	+ 2
France	53,266	4,075	7.6	Dec.	64,391	4,721	7.3	+ 19	+ 16
United Kingdom	53,265	5,204	9.8	Dec.	55,983	5,485	9.8	+ 5	+ 5
Italy	38,436	3,355	8.7	Dec.	43,418	3,407	7.8	+ 13	+ 2
Canada	36,331	23,805	65.5	Dec.	40,635	26,890	66.2	+ 12	+ 13
Netherlands	34,565	3,475	10.1	Nov.	35,212	3,152	9.0	+ 11	+ 4
Belgium-Luxembourg	30,632	1,947	6.4	Dec.	34,993	2,151	6.1	+ 14	+ 11
Sweden	17,871	1,184	6.7	Dec.	19,332	1,296	6.7	+ 8	+ 9
Spain	16,262	2,585	15.9	Dec.	17,400	2,482	14.3	+ 7	— 4
Brazil	13,658	3,386	25.2	June	6,603	1,624	24.6	— 7	+ 11
Switzerland	13,284	1,010	7.6	Dec.	14,766	971	6.6	+ 11	— 4
Australia	11,119	2,259	20.3	Dec.	12,442	2,555	20.5	+ 12	+ 13
Iran	10,348	2,051	19.8	Dec.	12,892	2,133	16.5	+ 25	+ 4
Denmark	10,329	622	6.0	Dec.	12,419	639	5.1	+ 20	+ 3
Norway	9,754	696	7.1	Dec.	11,109	718	6.5	+ 14	+ 3
Austria	9,392	275	2.9	Dec.	11,523	345	3.0	+ 23	+ 26
South Africa	8,326	1,475	17.7	Aug.	5,186	1,109	21.4	— 12	+ 4
Singapore	8,126	1,278	15.7	Dec.	9,070	1,198	13.2	+ 12	— 6
Yugoslavia	7,697	417	5.4	Dec.	7,367	370	5.0	— 4	— 11
Finland	7,617	421	5.5	Dec.	7,424	384	5.2	— 2	— 9
Korea, Rep. of	7,274	1,881	25.9	Nov.	7,922	1,739	21.9	+ 20	+ 4
Hong Kong	6,757	799	11.8	Dec.	8,860	1,086	12.3	+ 31	+ 36
Mexico	6,580	4,108	62.4	Oct.	5,032	3,140	62.4	— 5	— 4
India	6,198	1,384	22.3	Dec.	4,860	(1)	(1)	[2]+ 19	[2]+ 88
Nigeria	6,004	681	11.3	Aug.	5,037	493	9.8	+ 64	+ 46
Venezuela	5,957	2,840	47.6	Apr.	1,864	891	47.8	+ 34	+ 33
Taiwan	5,960	1,655	27.8	Dec.	7,609	1,801	23.7	+ 28	+ 9
Greece	5,322	396	7.4	Aug.	3,549	226	6.4	+ 9	— 23
Indonesia	4,770	670	14.0	Nov.	5,165	914	17.7	+ 22	+ 48
Turkey	4,739	426	9.0	Nov.	4,655	384	8.3	+ 3	— 11
Israel	4,171	944	22.6	Dec.	4,124	892	21.6	— 1	— 5
Argentina	3,960	644	16.3	Sept.	2,190	391	17.8	— 28	— 27
Portugal	3,830	475	12.4	Nov.	3,616	304	8.4	— 14	— 26
Philippines	3,786	822	21.7	Dec.	3,904	866	22.2	+ 3	+ 5
Ireland	3,769	272	7.2	Dec.	4,192	355	8.5	+ 11	+ 30
Iraq	3,529	305	8.6	July	1,296	80	6.2	[2]+ 49	[2]+ 62
Thailand	3,281	470	14.3	July	2,006	290	14.5	+ 1	— 10
New Zealand	3,154	442	14.0	Sept.	2,418	352	14.6	— 5	— 2
Malaysia, West	3,118	333	10.7	Dec.	3,353	405	12.1	+ 8	+ 22
United Arab Emirates	2,600	372	14.3	Feb.	406	52	12.7	[2]+ 45	[2]+ 55
Morocco	2,566	193	7.5	July	1,599	138	8.6	+ 3	— 12
Bahamas	2,233	268	12.0	Sept.	2,099	(1)	(1)	[2]+ 17	[2]+ 14
Pakistan	2,131	269	12.6	Dec.	2,134	418	19.6	+ (3)	+ 55
Trinidad and Tobago	1,471	325	22.1	Sept.	1,471	289	19.6	+ 23	+ 21
Bahrain	1,189	92	7.7	Oct.	1,300	105	8.0	[2]+ 5	[2]+ 14
Jamaica	1,112	404	36.4	Oct.	773	289	37.4	— 14	— 6
Ecuador	943	379	40.2	Nov.	886	(1)	(1)	[2]— 2	[2]+ 6
Panama	870	232	26.7	Apr.	227	71	31.2	— 2	+ 4
Oman	676	65	9.6	Nov.	586	(1)	(1)	[2]+ 70	[2]+ 110

NOTE: The countries shown above include the 50 major importers of U.S. merchandise in 1975 for which current data are available. Other oil-exporting countries, especially Saudi Arabia and Egypt, are major markets for U.S. merchandise, but current trade data from these countries are not now available so they cannot be included in this tabulation. In order to present comparable statistics for all countries, import data have been adjusted from an f.o.b. to a c.i.f. valuation for Australia, Brazil, Canada, Philippines, the Republic of South Africa, and Venezuela.

* Compared with preceding 12 months.
[1]Not available. [2]Import change from the year 1974 to the year 1975. [3]Less than 0.5 percent.
SOURCE: Official trade statistics of listed countries.

NEW ASSOCIATION ON THE TRADE SKYLINE

Though the twin 110-story towers seem to have fixed their place in the New York skyline, activity within the World Trade Center is anything but stationary. This year four of the leading U.S. commodity exchanges will move in, and—of special note to the U.S. international business community—a World Trade Association open to traders throughout the country is being organized. Guy F. Tozzoli of the Port Authority of New York & New Jersey, which operates the Center, is surveying potential members. He describes the Association's role in terms of its links to these existing Center services (pictured clockwise from top): the computerized Interfile of worldwide business information and the Electronic Yellow Pages in the World Trade Information Center, the seminars and language classes of the World Trade Institute, and facilities to handle business visitors both as clients and guests. There are now about 800 firms and organizations from 60 countries located within the still being completed World Trade Center complex in lower Manhattan.

EXHIBITING AT INTERVIEWS—*Business systems trade mission member Robert Courjaret (left) of General Automation had firm's minicomputer installed in hotel suite used for meetings, where he is demonstrating to potential Belgian customer.*

U.S. COMPUTER BUSINESS EQUIPMENT FIRMS REPORT ON BENELUX MARKET

A compact group of U.S. company executives just back from the Benelux countries sees the potential for selling several million dollars' worth of computer-aided business equipment in the region in the next year or so.

The executives comprised a U.S. trade mission exploring markets for their products—minicomputers and related peripheral equipment, including add-on disc memory systems, word processing systems, data storage and editing equipment, optical character readers, and a low-cost, simplified business computing system tailored to individual requirements.

Mission Director Eric C. Silberstein of the Commerce Department says the group found that equipment for business information management and telecommunications has the best potential, that companies selling data processing equipment for business must have quick-response service support in the area, that sales of equipment for industry—especially process controls—will be sporadic throughout the recession period, and that real-time processing equipment in the $20,000 to $60,000 range has the best prospect. A real-time system operates on input data instantly, producing an immediate answer or instruction. Real-time systems generally have been used in controlling continuous processes such as steel production and petroleum refining and in airline reservation systems.

In Brussels, both government and local industry expressed interest in U.S. equipment and services. Mission members talked with the Director of the European Economic Community's data processing standards office, and with NATO representatives—contacts which should result in multiple transactions during the year, Silberstein noted. On the industry side, agents and distributors provided the group with supplemental market information on the prospective minicomputer user. Significant interviews were conducted wtih officials of financial institutions which require many small independent installations with data storage and collection capability. In Antwerp, the group visited a cooperative processing center.

All of the mission members saw good short- and long-range opportunities in Luxembourg—because of the EEC presence, the concentration of industrial activity nearby, and the country's growing importance as a European financial center.

The Benelux computer market is already large—more than 8,000 had been installed by 1975, and that figure is expected to increase to almost 22,000 by 1980. Imports from the United States of such equipment were valued at $90 million in 1975, and are likely to more than double by the end of the decade.

Members of the mission, and the companies they represented, were: Ken Austin, Diva, Inc., Eatontown, N.J.; Robert Courjaret, General Automation, Inc., Anaheim, Calif.; Valentin Elices and Joseph A. Muldowney, Compuscan, Inc., Teterboro, N.J.; and James A. Hill, Systems Engineering Laboratories, Inc., Ft. Lauderdale, Fla.

U.S. Industrial Instruments Draw East Europe's Interest During Leipzig Spring Fair

Focusing on industrial instruments and systems, U.S. participation in this year's Leipzig Spring Fair provided considerable interest not only to technicians of the German Democratic Republic, but also to other Eastern European delegations visiting the fair.

The product mix of the 27 U.S. exhibitors ranged from sophisticated equipment and systems employing X-ray, laser, and electron beam technology for the surface analysis of electronic material to automatic blood sampling electronic systems capable of analyzing over 300 samples of blood and providing a tape readout of the results.

The GDR was particularly interested in such products, as it has embarked on a program of plant modernization and acquisition of capital-intensive industrial instrumentation. The Federal Republic of Germany has been the GDR's principal supplier of industrial instrumentation.

Both small and large firms were represented at the '77 event—the second Leipzig Fair in which the United States has exhibited. A number of cooperative agreements were initiated and some equipment sold this year. The exhibitors found that the fair provided them with a platform for displaying their products and technology to purchasing and end user groups.

AT LEIPZIG SPRING FAIR—*Physical Electronics Industries, Eden Prairie, Minn., exhibited instruments for sophisticated surface analysis of electronic materials. Right, jotting down a note, firm representative Walter Heierli.*

CONCERNS ABOUT SAFETY WHET NORDIC SPENDING FOR SECURITY EQUIPMENT

Government regulations, insurance company pressure, and the "economics of survival" are convincing firms and institutions, real estate owners, and private households in the Nordic countries to increase their spending on safety and security equipment.

At the U.S. Trade Center for Scandinavia in Stockholm, 45 American companies recently exhibited their equipment for more than 1,300 key registered visitors—including some 150 representing professional safety and security associations, as well as importing agents, from Norway, Finland, and Denmark. More than 30 percent of the business conducted during the exhibition was with these visitors from the three other countries.

A sharp increase in home burglaries and in bank and post office robberies, increasing concern for fire safety in homes, and a growing concern about the security of information stored in computers, are among the forces creating a rapidly growing demand. In quite a few categories of advanced electronic safety and security aids, U.S. products lead in technology and dominate the market in Sweden, Norway, Finland, and Denmark.

Exhibited products which attracted the greatest interest were: heat detectors, smoke detectors, lock systems and cores, burn packages, emergency central control/monitoring units, photoelectric alarm systems, gas detectors, infrared intrusion detectors, industrial fire extinguishing equipment, rapid sequence cameras, paging systems, emergency system control panels, door and area access control systems, rechargeable batteries, do-it-yourself burglar and fire protection kits, fence protection systems, emergency escape ladders, book theft detection systems, automatic electric door closers, portable oxygen units, and digital access controls.

A substantial, but somewhat more limited potential due to strong local competition or other marketing factors, was observed for these products: telephone analyzers, automatic telephone dialers, emergency alarm communications, bank alarms, merchandise control systems, electronic audible alarms, photo identification systems, multiple alarm systems, combination locks, safety goggles and helmets, seismic detectors, microwave alarm systems, CCTV, patient control systems, and halon extinguishing systems.

Seminars featuring panel discussions by the heads of the Nordic fire safety associations, chiefs of safety and security for several department stores, and experts in data security, industrial security, risk management, and crime prevention were held concurrently with the exhibition. Requests for admission tickets to several of these seven sessions were so high that use of a larger hall had to be arranged. Because of the product approval and marketing problems often faced by manufacturers hoping to bring in products analyzing or hooking into the national telephone system, or utilizing radio frequencies, a representative of the Swedish Telecommunications Authority (Televerket) Marketing Division was asked to conduct one seminar session and to answer exhibitors' questions.

Immediate sales at show's end totaled $70,200; expected in the next 12 months, about $6.1 million. Because of the interest shown by Scandinavians in leading safety and security technology from the United States, another similar exhibition at the Trade Center is already being planned for 1978.

SAFETY FIRST—*At U.S. Trade Center exhibition in Stockholm, James H. Hough, Interstate Engineering (right), shows the Vanguard smoke detector.*

EXHIBITING IN EGYPT—*Ralph Capasso (left) of Clarke-Gravely Corp., Muskegon, Mich., discusses his floor maintenance products with his newly appointed agent and a customer at the Cairo Fair.*

Cairo Fair Again Successful As Showcase For U.S. Goods

The annual Cairo International Fair has again proved to be a successful showcase for U.S. products and services. The third consecutive official U.S. exhibition had 22 firms using both indoor and outdoor space. At least 70,000 business and professional visitors attended the fair. Virtually all exhibited U.S. goods were sold, in the amount of $1.3 million. These firms project an additional $11 million in sales over the next 12 months.

A broad range of products was promoted, including construction equipment, machine tools, textile machinery, communications equipment, aircraft, sewing machines, floor maintenance products, calculators and cigarettes.

Pacific International Fair, In Peru, To Have U.S. Pavilion

With assistance from the U.S. Embassy in Lima, a U.S. Pavilion is being organized at the Tenth Pacific International Fair to be held in Lima, Peru, Nov. 16-27. The fair will feature industrial, mining and agricultural equipment, with a special emphasis on printing and graphic arts items, since it coincides with the Sixth Interamerican Graphic Arts Convention in Lima. For full information U.S. exhibitors may contact Robert Kohn, Commercial Attache, U.S. Embassy, Box 1995, Lima, Peru.

DANES WANT EQUIPMENT THAT CAN SAVE LABOR, CONTRIBUTE TO EXPORTS

Denmark, a nation heavily dependent upon foreign trade, is looking to export expansion to bolster its sluggish economy and improve its balance of payments. Although there is expected to be little economic growth in 1977, sales prospects are good for a variety of American products, especially those that can save labor and help increase efficiency in export industries, according to Edward J. Rankin, Commercial Attache at the U.S. Embassy in Copenhagen.

Last year the Danish economy expanded at a rate of 5 percent after declining during the worldwide recession of 1974-75. Although imports from the United States rose by 6.5 percent last year to U.S.$630 million, the U.S. share of the import market declined by a percentage point to 5.1 percent. This can be attributed to the fact that automobiles, mostly of West European and Japanese origin, accounted for an important share of the overall 25 percent increase in imports. In spite of a 60 percent increase in automobile imports, there was a slight decline in petroleum purchases.

CENTRAL COPENHAGEN—*This aerial view of Denmark's capital shows the harbor frontage which is to be converted into a recreational area for residents. This old inner port has lost its importance for shipping, for most vessels now call at the new outer harbor area.*

Although the surge in imports was partially offset by a 10 percent expansion in exports, Denmark's trade deficit more than doubled last year and the current payments deficit tripled to nearly $2 billion. Unemployment remained at 5 percent of the total labor force, an uncomfortable level in a country accustomed to having less than 2 percent unemployed.

The government, however, was able to reduce by one-half the price and wage inflation rates to about 9 and 11 percent, respectively, in 1976. Danish voters gave strong support to continued wage and price controls in the Feb. 15 election, in which the ruling Social Democrats and the moderate center right parties taken together increased their parliamentary membership. Control of price and wage inflation is regarded as the key to improving competitiveness of Danish products in world markets. The success of vigorous efforts to expand exports to the Middle and Far East may depend, to a large extent, upon the ability of the government to cope with these major domestic issues.

American exporters can look to Copenhagen's large convention and exhibition facility, the Bella Center, as an effective medium to reach the Danish and southern Sweden markets. The full 1977 schedule of Bella Center shows and exhibitions was published in *Commerce America,* Dec. 20, page 24. Exhibitions of products with primarily industrial and trade appeal usually are closed to the general public. During 1976, 24 shows were held at the Center with attendance totaling 540,000. In addition to its convention facilities the Bella Center boasts two permanent exhibitions, the Scandinavian Furniture Mart and Fashion Fair, both open only to professional buyers.

The first petroleum exploration drilling off the coast of Greenland began in the summer of 1976 with negative results from the only hole drilled by the TOTAL consortium. While TOTAL is not scheduled to resume drilling this year, three other consortia with major American participation, Mobil, Arco and Chevron, will commence drilling this summer. As these consortia are comprised of large, well-established petroleum firms, most of their equipment is procured through traditional channels, although all have offices in Denmark as required by terms of their concession agreements with the Danish Government.

Offices for the billion-dollar Great Belt Bridge project were formally established in Copenhagen in January. A consortium of three Danish firms called *Storebaeltsgruppen* (the Great Belt Group) has been selected to draw up documents for the invitation to bid on design and construction. The combined automobile and railroad bridge will connect the island of Zealand, where Copenhagen is situated, with the island of Funen, which already has bridge connections to the Jutland peninsula, hence to the European market. It is expected that tender documents will be completed in approximately two years. Actual construction is expected to commence in 1979 with completion slated for 1985/86. American firms with experience in major bridge design and/or construction should be very much in the running.

Sales prospects are good

Rising labor costs have caused an increasing number of firms to streamline operations, resulting in expanded sales of office equipment, including mini-computers.

The first installation of an American computerized point-of-sale cash register system utilizing a modified Universal Product Code system was made by the large IRMA chain of supermarkets in late 1976. After a trial period, similar systems will be installed in about 100 IRMA stores. This is solid evidence of the market for technologically advanced American products.

Food processing and packaging continues to be one of Denmark's most important industries. Replacement requirements as well as plant modernization create an expanding demand for automated labor-saving equipment. Greater effort is needed by American firms if they are to improve their share of this important market. Trade estimates indicate a major expansion of the market for FPP equipment, from approximately $33 million in 1974 to an estimated $66 million in 1978.

Denmark's expanding electronics industry will increase demand for sophisticated production and testing equipment. As leaders in this field, U.S. suppliers have an excellent opportunity for increased sales. Advanced production technology such as microcircuit technology has excellent sales potential, as do oscilloscopes and circuit testing equipment.

The U.S. share of the laboratory, scientific and engineering instruments market represents about 15 percent of the total Danish market of about $90 million. Through expanded marketing and sales efforts American firms could increase this share. Electron and proton accelerators, laboratory optical analysis instruments, and nuclear monitoring laboratory instruments have particular sales potential.

Other products for which there is good potential for American sales include plywood, grains, fodders, fruit and vegetables.

VIRTUALLY ANY PRODUCT HAS BUYERS IN TUNISIA, GIVEN PATIENCE, EFFORT

The Tunisian economy continued to display strength and versatility in 1976. Real growth of 9.9 percent closed out the Fourth Plan (1973-76) on an upbeat. Per capita income almost doubled in dollar terms over the four-year period and the savings/investment ratio was impressively high. Unemployment, the principal socio-economic problem, fell as government investment policy emphasized job creation in the industrial sector. Some 45,000 new jobs were created in 1976, 163,500 for the four years, with the private sector playing a dynamic role. Agriculture and manufacturing showed substantial gains, while mining and chemicals were still weak but beginning to recover from the impact of the depressed international phosphate market.

Fifth Plan objectives

The U.S. Embassy in Tunis reports that the Fifth Plan, to be launched this year, will call for agricultural self-sufficiency, full employment, and freedom from dependence on external aid by 1981. An ambitious investment program of 4.2 billion Tunisian Dinars will require strict discipline over consumption, high assistance levels from donors, and heavy foreign borrowing. Major projects in agricultural infrastructure; hydrocarbons, especially gas; phosphate mining, processing and derivative chemicals; roadbuilding and building materials (cement) will absorb most of the investment funds. Nevertheless, numerous smaller projects in light industry are expected to be a prime source of new jobs.

Discussion of bilateral commercial relations in the U.S.-Tunisian Joint Commission has centered on the desire of both sides to increase two-way trade and to expand American investment in Tunisia. Nevertheless, trade statistics show the United States as Tunisia's third (often fourth) trading partner—far behind the leader, France (6 percent versus 45 percent of total Tunisian imports).

This can be explained by the fact that Tunisia presents a number of problems for American exporters: language—virtually all commercial dealings must be in French; distance—geography means related transportation costs and service delays; market size—Tunisia has 5.5 million people and moderate income; trade formalities—import licenses and exchange controls not familiar to most American business executives; financing—competitors often offer mixed concessional/commercial credit packages not available to U.S. suppliers; price—competitors will more often quote fixed prices on turnkey projects; and tradition—links with France are well established and easy.

Nevertheless, numerous American suppliers have successfully overcome these obstacles and are now well established in the Tunisian market. They have captured major portions of the market in aircraft (all new aircraft bought in the last five years and those scheduled for future purchase are American), agricultural machinery, airconditioning equipment, business machines and computers, and scientific/medical instruments. The United States is also a major supplier of grain, both commercially and concessionally under Public Law 480. To assist U.S. exporters, the Export-Import Bank is prepared to finance sales to Tunisia.

The new Tunisian Fifth Plan offers many attractive opportunities for American companies, both for direct export deals and for investment. The Tunisian Government welcomes and encourages foreign private investment. Investors who go to Tunisia to produce entirely for export—to the Common Market, for example—receive numerous tax, duty and exchange control advantages based on the special Export Industries Investment Code of 1972. Investment for the domestic or mixed export/domestic market is governed by a 1974 Code which grants fiscal and other advantages based on jobs created and exports. Export industries may be 100 percent foreign-owned, whereas companies producing for the domestic market must have 51 percent Tunisian equity. Although these investment codes are relatively new and still in the shakedown period, the government, through its Investment Promotion Agency (API), is making every effort to overcome problems as they arise.

Investment attractions

Potential investors, especially in labor intensive manufacturing, are particularly attracted to Tunisia as a country with a moderate wage structure and favorable labor conditions, duty-free entry privileges for exports to the Common Market, and easy transportation, in addition to the tax and other incentives. Several American investors in such fields as garments, phosphate processing (fertilizer), food processing and textiles have already taken advantage of the Tunisian investment invitation. Each of these investors has been insured against political risks by the Overseas Private Investment Corporation (OPIC), a U.S. government agency. Response from Germany, the Netherlands, Belgium, France and other Western European countries has been even greater.

American companies wishing to engage in trade rather than investment find it important to be well-informed and well-known on the Tunisian scene. To accomplish this, an agent/distributor relationship with a reliable and active Tunisian company is ideal for most exporters, whereas regular visits to key Tunisian contacts by French-speaking representatives from the home or regional office is preferred by others. It is essential that correspondence, and particularly literature, be in French to ensure maximum success.

Of particular interest

The following product/service groups are singled out as particularly interesting for 1977 and the Fifth Plan:

- **Natural gas development:** Discovery of a major offshore natural gas field, Miskar, was announced in early 1975. Necessary studies have been completed and a decision is expected shortly on the development program for the field. Although the French company SNEA (Elf-Aquitaine) will probably maintain a minority interest in the project—to be developed with the Tunisian Government in a former SNEA permit area—supply of services and equipment for all phases of the project development will be open for competition.
- **Heavy equipment:** Major expansion programs in phosphate mining, road construction, land reclamation and dam construction will maintain the traditionally good market for heavy equipment in Tunisia. To enhance the position of U.S. suppliers in these product areas, the U.S. Department of Commerce will sponsor two market promotion events during 1978: Technical sales seminars in mining equipment (March) and materials handling equipment (May).
- **Construction and engineering services for chemicals, cement and electrical power:** Although many projects for the Fifth Plan are beyond the engineering stage, these product areas are destined for further expansion and relationships established at an early stage would be advantageous. Collaborative ventures with Tunisian partners are favored.
- **Light industry:** Recognizing it as a prime source of jobs, Tunisia is promoting light industry (e.g., plastics, glass, electronics, mechanical and electrical equipment, leather goods) among domestic entrepreneurs. American investment in these industries for export would be particularly welcome. A good market is developing for the machinery and equipment necessary for light industrial plants.
- **Textile and garment equipment:** Garment exports from Tunisia doubled in 1976, an indication of the growth of this industry. The government-owned textile company SOGITEX plans to double its spinning and weaving capacity by 1981. Although most firms in the garment industry are non-Tunisian, there is a good market for equipment.
- **Computers and peripheral equip-**

MARITIME CITY—*Traditional and modern architecture share the skyline of Tunis. A wide variety of products are marketable in this city and the rest of the country.*

ment: Tunisia is just entering the era of computers. There are approximately 60 medium and large computers in Tunisia now, with plans for at least four major new systems in the next three years. Business and government use of medium-size computer facilities is expected to expand rapidly.

• **Leisure, hotel and restaurant supplies:** Tourism is big business in Tunisia, but the infrastructure is beginning to show signs of age and the strategy is to upgrade service, clientele and price. Luxury facilities—including golf and casinos—will be provided at a major beach resort under construction at Sousse. Further new construction will be limited principally to one or two major luxury hotels in Tunis. Modernization and refurbishing will begin shortly.

• **Building materials and systems:** A Department of Commerce trade mission on building materials, scheduled for April 1978, will expose Tunisian buyers to the possibilities for efficient construction of commercial and residential buildings. At present, virtually all construction in Tunisia is rock, block and concrete—slow and costly. The need for housing and new office space for business and government will likely lead to an active search for new techniques.

Pool of untied funds

This listing is not intended to be encyclopedic, but to present a sketch of promising areas for inquiry by U.S. companies. Major World Bank projects in many of the above areas, as well as new assistance to Tunisia from Arab oil producers, provide a substantial pool of untied funds which can be captured by U.S. exporters. Virtually any product, even popcorn and poppers, has a market—but effort and patience are essential.

FILIPINOS HOPE UPTRENDS IN U.S., JAPAN TRIGGER NEW WAVE OF DEMAND

Economic prospects in the Philippines depend to a large extent on the pace in the U.S. and Japanese economies, according to the U.S. Embassy in Manila. If the economies of the Philippines' major trading partners, the United States and Japan, begin hitting on all cylinders, the resulting stimulation of Philippine exports could trigger a corresponding rise in domestic demand for goods and services. The Secretary of Planning may have had this in mind recently when he advanced the possibility of 7.5 percent growth in 1977, exceeding the government target of 7 percent.

However, the National Economic and Development Authority has identified the following problem areas: First, public funds must be generated to meet the increasing cost of government projects. Second, the government must take a hand in reorienting the troubled sugar industry. Third, a clear policy on export priorities has to be established in order to diversify and expand exports. Finally, the recent increase in crude oil prices raises the possibility of renewed inflationary pressures.

The foreign trade account continues to be a problem. With the prospect of increasing costs for oil and capital goods imports, export receipts must increase. Non-traditional export performance is encouraging, but in 1976 the Philippines still derived 57 percent of export receipts from five commodities: sugar, coconut oil, copper concentrates, logs and lumber, and copra.

The Philippine economy achieved an estimated real GNP growth of 6.3 percent in 1976, compared with 5.9 percent in 1975. The balance of payments continued to be in deficit. The 1976 trade deficit was slightly over $1 billion, and the current account deficit $565 million, nearly the same as in 1975. However, favorable capital flows reduced the overall deficit to $164 million, a marked improvement over 1975's $520 million deficit. Inflation was held to 6.2 percent.

A new element in the region is the growing progress in economic cooperation among the ASEAN countries—Indonesia, Malaysia, Philippines, Singapore and Thailand. Feasibility studies are now planned or under way on five ASEAN industrial projects—three fertilizer plants, soda ash production, and diesel engine manufacture. In March, the ASEAN countries signed an agreement on preferential trading arrangements which followed bilateral agreements for 10 percent tariff reductions between the Philippines and Singapore, and Singapore and Thailand. The United States Government will soon enter into an economic dialogue with ASEAN. Economic issues will be discussed, including opportunities for U.S. business to participate in the growing ASEAN economy, through trade and investment.

On Oct. 1, a tax treaty between the U.S. and Philippine Governments was signed for the purpose of avoiding double taxation and preventing fiscal evasion by residents of the two countries. The treaty has yet to be ratified by the governments of the two countries. No further discussions have been conducted on a possible successor treaty to the Laurel-Langley Agreement, but talks could resume at any time.

Opportunities for U.S. exporters

Principally because of the balance of payments deficit, the Philippine Government may become selective in approval of foreign exchange transactions for import financing. But the picture is favorable in some areas. Major projects related to infrastructure development will offer opportunities for foreign equipment sales, especially in the construction, telecommunications, and energy systems fields. Although relaxation of present restrictions on the export of raw logs is unlikely, the wood products industry generally continues to grow, and U.S. logging and forestry equipment suppliers may find opportunities to improve their positions. Additionally, the U.S. Embassy rates materials handling equipment and systems, pollution control instrumentation and related equipment, food processing and packaging equipment, computers and

related equipment, laboratory and scientific instruments and health care equipment and apparatus as important areas of opportunity for U.S. sales.

The investment picture

New foreign investment in the Philippines amounted to $122 million in 1976, a 35 percent increase from the 1975 level of $90 million. The United States regained its position as the most important source of investments, accounting for 47 percent of the 1976 increment (23 percent in 1975), while Japan supplied 26 percent in 1976 (48 percent in 1975).

The Philippine Government recognizes a continuing need for foreign investment. At the same time, authorities are determined to insure that investment results in the maximum possible benefit to Philippine development, and government policy is evolving. It therefore behooves American investors to choose carefully their areas of involvement and to keep abreast of conditions for investment.

The government particularly welcomes foreign investment in certain areas, most recently specified in the Ninth Investment Priorities Plan, the Second Public Utilities Priorities Plan, and the Seventh Export Priorities Plan. Incentives are offered for "pioneer," "preferred," and export-oriented industries. For further details, interested American firms should write: Philippine Board of Investments, Ortigas Building, Ortigas Avenue, Pasig, Metro Manila, Philippines.

Attractive opportunities exist for American business, but careful planning is required. Exporters will have to compete with the energetic Japanese and increasingly interested Europeans for the scarce foreign exchange available for imports. Investors must be sensitive to regional (e.g., ASEAN) developments, as well as to the changing needs of a dynamic economy. The Philippine economy should continue to expand; American business can participate and share in the rewards.

Thailand Has Sound Economy, But Business Is Waiting For Political Situation To Stabilize

Thailand has a sound economy and growth potential. The key to growth is political stability and government policies aimed at meeting the challenge of modernizing the economy. In its report to the Department of Commerce on economic trends in Thailand, the U.S. Embassy in Bangkok notes that the market for American products in Thailand has been growing over the past decade and opportunities for sales in such fields as agribusiness, office equipment, and scientific and medical equipment are good. A major revival of new investment depends upon an improved political situation—the economic conditions are present.

Growth in gross domestic product is about on target, with a 6.2 percent increase in 1976 and 7 percent in prospect for 1977. The trade deficit is likely to be higher in 1977, and there will be an increase in the balance of payments deficit from 1976's small $4 million.

There has been as yet no significant increase in new investment but there are many indications that a rise is in the offing: inventories are being built up again and the number of foreign business executives interested in trade and investment in Thailand is increasing. Foreigners there have generally been encouraged by the attitudes and accomplishments of the government in the past half year. Several projects stalled by political indecision or bureaucratic delays have moved forward. A new Investment Act reaffirming the need for foreign investment and liberalizing the former law has been passed.

The business community remains concerned over the political situation. An unsuccessful coup at the end of March suggested an unsettled power relationship in the armed forces, although its failure may be regarded as strengthening the position of the present military leadership. There have been five prime ministers in four years, and business wants to be more confident about the long-term viability of the present civilian government.

Thailand's Fourth Five-Year Plan (1977-81), aims for a higher and sustained rate of output, investment and employment expansion, especially during the first two years. The objective of the Plan is to promote a more equitable economic and social order to ensure that the benefits of development are shared more equitably among a larger segment of the population. The longer run emphasis is on reducing social and economic disparities by increasing rural income and employment opportunities, diversifying agriculture and improving agricultural productivity. The Plan also stresses an industrial development strategy to promote export-oriented and agro-based industries and natural resources development including water, forest and minerals resources, and land reform. The Plan projects a growth rate of 7 percent annually and requires total investment of about $31 billion.

The Plan lists prospective new public sector projects of almost $8 billion, most involving state enterprises. The power sector alone accounts for over $3 billion, including hydro, conventional thermo and nuclear generating stations, transmission and distribution and rural electrification. Many of these projects have potential for significant business for U.S. firms.

Official loans totaling about $4 billion will be sought from international financial institutions (IBRD, ADB) and foreign governments, with a small amount coming from financial markets. These loans are expected to result in disbursements during the Plan period of about $2.4 billion, or some 7.7 percent of the total investment requirement.

Some of the best investment and sales opportunities for American companies in Thailand continue to be in the agri-business sector. With the government's development plans emphasizing higher rural incomes and employment and development of the economy in the countryside, sales prospects look particularly attractive for exporters of agricultural and food processing machinery and equipment, as well as a wide variety of products and services needed for planned development of the rural economy. The Plan includes rural development among its priority objectives, with the government expecting to allocate considerable sums for such things as irrigation projects, expansion of power generation and transmission facilities, rural electrification, regional airport expansion and port improvement projects, country-wide expansion of telephone facilities, and the like. Equipment will be needed, as well as consulting services.

Japanese resume activity

Although many Thais feel that the business climate has improved considerably since before last October, foreigners, particularly potential investors, appear to be continuing to hold back, waiting for a longer-term indication of stability. Since the beginning of the year, the Japanese have begun to apply again for approval to make new investments, and this may presage an increase in interest from other nationalities.

There are other opportunities as well for American exporters, not directly related to rural development or construction. There are expanding markets for a wide range of consumer goods, mainly in the Bangkok metropolis, as well as for office equipment, communications equipment, furniture making machinery, and hospital and medical equipment.

American exports to Thailand have steadily increased over the past several years, and there is every reason to believe that this trend will continue. Thailand is not yet ready for the most sophisticated of equipment, but it is clearly moving steadily in that direction and U.S. companies which have developed relations with local agents and the local market will be in the best position to benefit.

Calendar For World Traders

May 11—Boston—International Business Center of New England seminar on Middle East, Hyatt Regency Cambridge. Information: 617-542-0426.

May 12—Boston—International Business Center of New England Trade Winds Round Table and dinner meeting on Port of Boston, Joseph's Aquarium Restaurant. Information: 617-542-0426.

May 12—New York—Overseas Automotive Club meeting, Summit Hotel.

May 13—Oakland—World Trade Club's 42nd Annual Consular Corps Banquet.

May 15—San Francisco—World Trade Assn. luncheon meeting.

May 16—Reno—Reno Rotary Club World Trade Week luncheon, Harrahs Hotel Casino. Sponsors: Rotary Club, Nevada World Trade & Int'l Tourism Assn.

May 16-26—New York—Several World Trade Institute seminars, including: Export Development Workshop; International Management Accounting; Africa—Business Opportunities and Problems: A Firsthand Account; International Taxation: Technical Session and Compliance Workshop; and Introduction to International Business.

May 17—Omaha—Seminar: How to do Business in France, First National Center.

May 17—Boston—International Business Center of New England seminar on International Finance, Babson College, Wellesley. Information: 617-542-0426.

May 17—Memphis—World Trade Club meeting, Southwestern Univ. at Memphis.

May 17—Denver—World trade conference on how to Maximize Your Profits Through More Effective Exporting, Marriott. Includes a series of workshops on exporting. Colorado District Export Council, 303-837-3246.

May 17—Milwaukee—World Trade Week conference. Sponsors: World Trade Assn. of Milwaukee, Northeastern Wisconsin World Trade Club.

May 18—Raleigh, N.C.—Annual meeting of North Carolina World Trade Assn.

May 18 — Philadelphia — World Trade Week dinner, Downtown Club. Sponsor: World Trade Assn. of Philadelphia.

May 18 — Columbus, O. — International Trade Committee dinner meeting, Mannenchor Club.

May 18—Chicago—Mid-America—Swedish Trade Assn. meeting. Commerce speaker: James Boney of the Office of International Marketing.

May 18-20—San Antonio—FCIB Round Table Conference, in conjunction with NACM's 81st Annual Credit Congress, and FCIB International Credit Executives meeting, Hilton Palacio del Rio.

May 18-20 — Charleston, S.C. — Fourth South Carolina International Trade Conference, Mills Hyatt House Hotel. Theme: Asia—the Emerging Giant. Information: 800-845-5351 out of state, 800-922-5254 in South Carolina.

May 19—New York—FCIB Drug, Chemical & Food Export Club meeting, Summit Hotel.

May 19 — Chattanooga — World Trade Council meeting, Read House.

May 19—Buffalo—Tri-Cities Trade Conference on Updating Business Conditions in the Near East, and annual World Trade Dinner, Statler Hilton. Speaker: Peter Hale, Director, Commerce Action Group for the Near East.

A featured story on country-wide activities during World Trade Week, May 22-28, will be in the next issue.

May 19-21—Cleveland—Export Matchmakers Conference, Sheraton. Information: L. J. Bendler, Commerce District Office, 216-522-4755.

May 20—Long Beach—How to Export seminar, Port of Long Beach Administration Bldg. Sponsors: Long Beach International Business Assn., International Marketing Assn. of Orange County. Information: 213-436-1251.

May 20-21 — Indianapolis — Ohio Valley International Trade Conference.

May 21—San Diego—Banquet sponsored by World Trade Assn., Kona Kai Club.

May 23-25 — Minneapolis — World Trade Week program on importance of exporting, Thunderbird Hotel.

May 24—St. Louis—Seminar on Doing Business in Canada, Sheraton West Port.

May 24—Los Angeles—Ninth Annual Export Seminar, City Hall Tower. Sponsor: Export Managers Assn. of Southern California. Co-sponsor: Mayor Bradley. Call: John Hunt, 213-485-2222.

May 24—New York—Long Island World Trade Day and 5th International Trade Exposition, Crest Hollow Country Club, Woodbury. Sponsor: World Trade Club of Long Island Assn. of Commerce & Industry, 516-752-9600.

May 24-25—Dallas—Fourth Annual International Trade Conference of the Southwest, Southern Methodist Univ. Secretary of Commerce Juanita M. Kreps will speak. Sponsor: Center for International Business, 214-742-7301.

May 25—West Orange, N.J.—New Jersey World Trade Conference, The Manor. Theme: Trading With Japan. Speakers include Fumihiko Togo, Japanese Ambassador to the United States; Brendan Byrne, Governor of New Jersey; and Commerce's Country Specialist for Japan, Tatsuo "Art" Miyakawa. Information: 201-648-3810.

May 25 — Providence — Bryant College World Trade Fair. Robert Pritchard of the Bureau of International Commerce will speak.

May 25—San Diego—World Trade Week luncheon seminar on U.S.-Japan Relations, University Club. Sponsors: Chamber of Commerce, World Trade Assn., Port of San Diego, U.S. Department of Commerce. Information: 714-293-5395.

May 25 — Milledgeville, Ga. — Export Workshop on Doing Business in the Middle East, Georgia College. Sponsors: Atlanta District Office, Georgia Business and Industry Assn., Milledgeville-Baldwin County Chamber of Commerce. Andras Behr, Commerce Action Group for the Near East, will speak.

May 25—Atlanta—Georgia International Trade Association's annual World Trade Week luncheon, American Motor Hotel. Speaker: Dean Rusk.

May 25-26—Fort Lauderdale—Governor's Conference on World Trade. Tom Brewer of Commerce's Office of International Marketing will discuss Selling in Venezuela.

May 26—El Cajon, Calif.—World Trade Week seminar sponsored by Chamber of Commerce.

May 26 — New York — Export Development Day, World Trade Center. Conference theme: Export Development—Your Key to Profits. Sponsors: U.S. Department of Commerce, International Executives Assn., 212-432-1860.

May 26—Boston—World Trade Day in New England, Copley Plaza Hotel. Morning session: Marketing in Indonesia and Singapore. Luncheon session: More Jobs Through International Business. Information: 617-542-0426.

May 27—Oceanside, Calif.—World Trade Week seminar sponsored by Chamber of Commerce.

Worldwide Business Opportunities

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors abroad. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine.

The section that follows presents details about upcoming trade exhibits and trade missions, licensing and joint venture proposals, opportunities to sell to foreign enterprises, visiting buyers, and details on major construction and expansion projects.

U.S. Promotions Abroad

For more facts on these and other U.S. exhibitions write: Director, Office of International Marketing, Rm. 4015, U.S. Department of Commerce, Washington, D.C. 20230. For trade missions: Rm. 6051, U.S. Department of Commerce, Washington, D.C. 20230.

Agricultural Equipment Catalog Exhibition, "Royal Agricultural Show." Kenilworth, United Kingdom. July 4-7. Britain's farm equipment market is in remarkably good health despite general economic gloom. Imports of this equipment were up 28 percent in the first ten months of 1976, following a record performance the previous year. Britain's farming sector is widely regarded as the most efficient and innovative in Europe. With increased emphasis on "mixed farming," British farmers are looking for new crops and equipment with which to produce them. Poultry producers are moving to the economics of American-style "battery" operations. Specialized machinery is needed to equip expanding domestic production of fruits and vegetables. Conventional farmers are setting aside land for greenhouses and other protected cultivation. Due to mounting energy costs, solar and other energy-saving heating units for greenhouses are of particular interest. Catalog Exhibitions Section, 202-377-3973.

Security and Safety Equipment Exhibition and Seminar. U.S. Trade Center, Sydney. July 11-15. The continent of Australia offers promising sales opportunities to U.S. suppliers of security and safety equipment. Expanding at a buoyant rate, the total market should top $210 million by 1980, with imports accounting for $71 million. This exhibition, specifically recommended by independent research, provides direct access to a growing market. A wide range of product categories of interest to both public and private end-users will be featured. Robert McLaughlin, 202-377-4957.

Furniture Manufacturing and Woodworking Equipment Exhibition and Seminar. U.S. Trade Center, Mexico City. July 12-15. High sales potential and an expanding market exist in Mexico for this U.S. equipment, according to a market survey completed in January. The market survey summary lists most salable products in demand by Mexican plants and valuable statistical data as well as a description of the multimedia pre-exhibit promotional campaign for this event, which will promote selected machinery and equipment encompassing the metal, wood and plastic segments of the furniture and millworking industries. C. M. Cummings, 202-377-4463.

Pollution Control Equipment Catalog Exhibition. Caracas and Bogota. July 12-21. Venezuela's 1976 "Environmental Organic Law" is now being implemented with creation of the Ministry of Environmental Matters. Full implementation of this law and enforcement of compliance is expected to stimulate local demand for specialized environmental control equipment and instrumentation, engineering and consulting services, technological assistance and training, etc. Greater emphasis is indicated on control of waste and sewage disposal methods, potential recycling processes, and use of waste treatment by-products, as the recently passed law gives industry tax benefits for investment in pollution control equipment. In Colombia, proposed new legislation establishes a national sanitation code giving the Ministry of Health broad powers in implementing the regulation, with establishment of maximum levels of pollutants in industrial residues, and more effective penalties for plant noncompliance. Catalog Exhibitions Section, 202-377-3973.

Automotive Diagnostic and Repair Equipment Exhibition. U.S. Trade Center, Tehran. July 17-21. Iran's vehicle population is expected to grow from 1 million in 1976 to 2.1 million by 1980. Domestic production should increase dramatically. Most U.S. and foreign auto/truck manufacturers are already involved in Iranian joint ventures. The number of repair facilities, now estimated at 4,200, is increasing. Iran has limited domestic production capabilities in the diagnostic and repair field and will need substantial imports to satisfy growing demand. Call Bill Monroe, 202-377-2952.

Sporting Goods and Recreation Equipment Exhibition. U.S. Regional Trade Center, Singapore. July 18-22. As the main supplier of goods and equipment to Malaysia and Indonesia, Singapore is a rapidly growing market for sporting goods and recreation equipment. The number one tourist center in Southeast Asia, Singapore's domestic consumption is supplemented by a large tourist trade in sporting equipment. Best prospects for sales are in equipment for water sports, an increasingly lucrative market, and for indoor and outdoor games and sports. With more leisure time, an increasing emphasis on health, and increasing affluence being enjoyed by the people of Singapore, now is the time to enter this market. Todd W. Burns, 202-377-2051.

Electronic Components Exhibition. U.S. Trade Center, Tokyo. July 18-22. The Japanese market for electronic components grew from $2.9 billion in 1975 to approximately $4 billion in 1976. Projections for 1980 indicate a $7 billion market, with imports of $911 million, $200 million from the U.S. During the period 1977-80, Japanese imports of U.S.-manufactured components should total $770 million. The most advanced technology will insure high sales potential for integrated circuits, diodes and rectifiers, transistors, resistors, semiconductor lasers and switches. Cantwell Walsh, 202-377-4399.

Pollution Control Equipment Exhibition. U.S. Trade Center, Taipei. July 18-22. Market research shows expanding requirements for pollution control equipment and instrumentation, both air and water. Total sales of this equipment, US$58 million in 1975, are expected to reach $88 million this year and $191 million in 1980. Newly-decreed enforcement of pollution control legislation is causing sizable expenditures by Taiwan industry. In addition, there is large demand within enforcement agencies for advanced automated instrumentation, including sampling, testing, metering and monitoring instruments. Joseph Burke, 202-377-5402.

Mining and Construction Equipment Trade Mission to Bolivia, Peru and Chile. July 18-30. The mineral and construction sectors in these three Latin American countries are improving after the recent recession and decline of international mineral prices. Chile plans investments of $2.4 billion and $2 billion in the mining and housing sectors, respectively, in the 1976-81 period. U.S. suppliers of mining and construction equipment can look forward to increased demand in all three countries. Typical products represented will be off-highway trucks, excavators, drilling equipment, motor graders, mineral classification machinery, crushers, compressors, dozers, rod mills and pneumatic shovels. Geoffrey H. Walser, 202-377-2973.

Building Construction Equipment and Supplies Catalog Exhibition. Sudan and Nigeria. Aug. 2-9. Nigeria's $49 billion national development plan now under way includes plans to build 150,000 primary schools, 800 secondary schools, four new universities, 1800 primary health centers, and a communications center, roads and utilities. In the Sudan, new hotels and tourist lodges have previously constituted the main building construction activity, but beginning in June, the country's new Six-Year Economic and Social Development Plan will be implemented to complement the industrialization of agriculture by providing new processing plants for cotton, tea and coffee, and a major investment in basic services in hospitals, schools and

housing. Catalog Exhibitions Section, 202-377-3973.

Chemical / Petrochemical Production Equipment Catalog Exhibition. Korea and Taiwan. Aug. 8-19. Both countries have established strong and buoyant chemical and petrochemical industries in the last 15 years. Approximately 80 percent of the equipment needs of Taiwan's petrochemical industry is imported. U.S. manufacturers enjoy 30 percent of this market, totaling about $20 million annually, involving mostly industrial process controls and instrumentation. A spectacular three-fold increase is noted in U.S. exports to Korea—principally control instruments and valves—from 1974 to 1975, when sales rose from $1.3 million to $3.85 million. Catalog Exhibitions Section, 202-377-3973.

Graphic Industries Equipment Exhibition and Seminars. U.S. Trade Center, Mexico City. Aug. 15-19. The sales outlook for printing and graphic arts equipment in Mexico is very good. An extensive market survey identifies a diversified list of graphic equipment with best sales opportunities through 1981. Cumulative import sales for the next five years are estimated to top $264 million, a healthy annual growth rate of 15.5 percent. Sales by U.S. manufacturers will double and reach $41.1 million in 1981, for a market share of 57.8 percent. In 1976, Mexico imported an estimated $38 billion worth of graphic equipment. Over 50 percent, or $20.7 million, was U.S. Although there is increasing competition from European manufacturers, the outlook is for U.S. manufacturers to retain and strengthen their share. The Mexican graphic industry is interested in new technology and replacement equipment to modernize, improve efficiency, and reduce costs. Equipment such as typesetting and typemaking, printing, bookbinding and photographic will continue to offer strong sales prospects. Dan Chambers, 202-377-4463.

Metalworking Machinery and Equipment (METALQUIPOS '77). Caracas. Aug. 29-Sept. 3. A 50 percent annual growth is expected over next three years in U.S. sales of metalworking machinery to Venezuela as that oil-rich country begins to invest $13 billion in metal-producing, automotive, tractor, ship repair, and home appliance industries. Exhibitors will receive full range of marketing services, including booth design and construction, VIP reception, extensive market promotion campaign. Hans J. Amrhein, 202-377-2332.

CHEMISTRY '77. Moscow. Sept. 1-15. The 10th Soviet Five-Year Plan (1976-80) stipulates increases in industrial production of 35-39 percent and a growth rate in the chemical/petrochemical industry of 60-65 percent—50 percent higher than that of industry overall. The Soviets are placing top emphasis on agricultural chemicals to help boost farm output. Heavy concentration is planned on increasing fertilizers, insecticides, herbicides and other plant-protection chemical products. In addition, the plan calls for satisfying consumer needs. These include increases in production of synthetic resins and fibers, plastics, synthetic rubber and tires, magnetic film, electrical insulating materials, cleaning materials, textile dyes, polymer additives, plastic wraps, and other packaging materials. Call Tony Bilecky, 202-377-2801.

General Industrial and Agricultural Equipment. U.S. Exhibition at 33rd Plovdiv International Fair. Sept. 3-10. Agriculture, a vital sector in the Bulgarian economy, will expand 20 percent during the new plan period (1976-80). A full range of farm equipment is desired. Substantial potential demand exists for U.S. industrial equipment and high technology products such as materials handling equipment, machine tools, automated equipment, and all classes of multiple operation machines superior to European equipment. Reginald Beckham, 202-377-2802.

Hotel, Institutional and Restaurant Equipment Exhibition. U.S. Trade Center, Taipei. Sept. 5-9. This market will expand rapidly over the next five years. Research indicates that food preparation and service equipment, administrative service equipment, furniture and decor, and security and safety equipment will expand from $329 million in 1976 to $402 million in 1979. The hotel sector will receive great momentum from $153 million in government expenditures on tourism over the life of the Six-Year Development Plan. William W. Zamula, 202-377-4227.

Electronic Industry Production and Test Equipment Exhibition. U.S. Trade Center, Mexico City. Sept. 6-9. Rapid sales growth of electronic components, radio and TV receivers and communications equipment has made Mexico one of the top ten foreign markets for EIPT equipment. Exclusive of the border industries program, Mexican demand for EIPT equipment has grown 10 percent annually and is projected to rise to $17 million by 1979. Some $14 million of this demand will be met by imports. U.S. manufacturers of this equipment command a 70 percent share of Mexico's total EIPT imports. Mary R. Wiening, 202-377-2313.

Computer and Peripheral Equipment Catalog Exhibition, at "INELTEC Fair." Basel. Sept. 6-10. The Swiss market for this equipment is expected to maintain an annual increase of 9 percent for the remainder of the decade, reaching $175 million in 1980. Imports constitute most of this market, U.S. exports of this equipment to Switzerland were approximately $45 million in 1975 and are projected to rise to around $70 million by 1980. Sales of mini-computers and peripherals are most dynamic, with the former expected to almost double between 1975 and 1980. Exceptional demand is anticipated for advanced entry, output and storage devices, as well as terminals. Sales of small, medium and large computer systems will chiefly represent demand for replacement and modernization of existing installations. It is estimated that 400 new systems will be added in the latter half of the decade, with an estimated annual replacement volume of 200 to 300 systems within the same period. The INELTEC Fair is one of the largest in Europe and is expected to draw well over 30,000 visitors. Catalog Exhibitions Section, 202-377-3973.

Advanced Medical, Surgical, and Dental Equipment—Brno Engineering Fair. Sept. 14-22. Czechoslovakia plans to upgrade the level of medical services to its general population through 1980. Advanced medical research equipment, examination and diagnostic instruments, blood and organ analysis instruments, sophisticated surgical equipment, advanced life support systems, and radiological diagnostic and treatment equipment all have good potential. Gary Roberson, 202-377-3376.

Process Control and Instrumentation Exhibition. U.S. Trade Center, Sao Paulo. Sept. 16-21. The Brazilian market for industrial process control equipment has shown remarkable growth in the past and should maintain a strong pace. Brazil imports 90 percent of this equipment, and the U.S. enjoys a 50 percent share. Between 1973 and 1975 imports doubled from $24 to $48 million. Forecasts for 1978 estimate total imports of $60 million. Bill Vigneault, 202-377-5427.

Building Products and Systems Exhibition and Seminar. U.S. Regional Trade Center, Singapore. Sept. 19-23. Total imports of building and construction products and equipment into Singapore increased over two times from 1972 to 1976. Projections indicate another two-fold gain by 1980, with the market reaching $1.7 billion. Imports of building products and systems have followed the same pattern, more than doubling from 1972 to 1976, and seen totaling almost $1 billion by 1980. U.S. exports of special building materials and equipment are expected to increase phenomenally due to regional and local affluence and sophistication and the quality, standards, variety and modernity of U.S. manufacturers. Contact J. Lee Barnes, 202-377-3893.

Air and Water Pollution Control Technical Sales Seminar. Austria, Poland and Hungary. Sept. 19-30. All three countries have policies which aim at upgrading air and water quality. Best sales prospects for U.S. firms include biological water purification systems, scrubbers and precipitators to remove pollutants from smoke stack emissions, water quality control systems, equipment to measure air quality and pollution from automobile exhausts, and instrumentation. Alice Clark, 202-377-2348.

Instrumentation Catalog Exhibition at "HET Instruments Fair." Amsterdam. Sept. 21-29. The Netherlands is an excellent market for all four categories of instruments and related equipment being promoted at this exhibition: scientific and industrial laboratory instruments; biomedical and clinical instruments; process control instruments; and electronics industry production and test instruments and components. Imports supply about half of the Netherlands' instrumentation requirements. The U.S. is one of the leading exporters of this equipment to Holland, especially in electronics industry production and test equipment, where we supply over half of the total market. The greatest increase among these four categories is in process control instrumentation, which is projected to hold at a steady increase of 15 percent per year. The HET Instruments Fair is expected to draw close to 50,000 visitors from all over Europe. This catalog exhibition provides an inexpensive means for U.S. manufacturers to test the strong Dutch market and to gain exposure throughout Europe. Catalog Exhibitions Section, 202-377-3973.

SPOGA 77—Sporting and Camping Equipment. Cologne, Germany. Sept. 25-27. Considered the world's major international exhibition for sporting and camping equipment. SPOGA 76 hosted more than 1,915 exhibitors from 35 countries and, in only three days, attracted 42,800 trade visitors from 70 countries. Commerce's pavilion will accommodate 40 U.S. manufacturers. Loretta Allison, 202-377-3748.

Automated Construction Seminar Exhibit. U.S. Commercial Office, Moscow. Sept. 26-30. The 10th Soviet Five-Year Plan (1976-80) calls for increased mechaniza-

tion in all phases of construction, particularly in finishing operations. Construction of at least 545 million sq. meters of housing, and schools to accommodate an additional 8 million children, is planned. Output of building materials is to increase by 30 percent. Area of greatest Soviet interest is equipment and technology to improve methods of construction with concrete and beautify results. Also of interest is equipment for finishing work, light protective exteriors, thermal insulation materials, floor coatings, and restoration of buildings damaged by earthquakes. Jim Robb, 202-377-4810.

Advanced Business Equipment and Systems Exhibition. U.S. Trade Center, Tokyo. Sept. 26-30. The Japanese market for such products was $975.5 million in 1974, and the forecast for 1979 is $1.5 billion. Japanese imports are estimated at $208 million for 1979, of which the U.S. share will reach $125 million. Featured will be labor-saving office equipment and systems which save time, cut costs, accommodate the Japanese shift to multinational enterprise and meet the exacting demands of the expanding Japanese information processing community. Robert Levine, 202-377-4379.

Quality Control and Materials Test Instrumentation Exhibition. U.S. Trade Center, London. Sept. 26-30. The U.S. presently enjoys a market share of over 25 percent of this $80 million market, which is expected to rise to almost $100 million by 1979. General product categories which hold excellent market potential include spectroscopy and chromotography, physical properties testing and inspection instruments, electro-chemistry analytical instruments, optical analytical instruments, thermoanalysis instruments and other related quality control and materials test instruments. A Technical Seminar will also be conducted in conjunction with the exhibition. Contact John L. Wolf, 202-377-3459.

Telecommunications, Radio and Television Equipment Exhibition. Caracas. Sept. 26-Oct. 1. Venezuela, because of expanding requirements for imported telecommunications equipment, offers an attractive market. Apparent consumption of telecommunications equipment in Venezuela in 1976 was $172 million, projected to grow to $222 million by 1979. Hans J. Amrhein, 202-377-2332 or 4831.

Food Processing and Packaging Equipment Exhibitions. U.S. Trade Centers, Paris, Sept. 27-30; Milan (off-site, in conjunction with IPAK-IMA international trade fair), Oct. 3-9. Just completed research in both markets indicates excellent marketing opportunities for a wide range of food processing and packaging equipment. Total sales in these sectors are expected to grow far more rapidly than the national economies as a whole, as buying habits continue to change. In France alone, sales of food processing equipment will be over $600 million and sales of packaging equipment over $300 million by 1980-81, around half of this imported. Thanks to our favorable competitive position in this area, the U.S. share of the market is expected to double over the next few years. Will allow participants to obtain maximum exposure with minimum of travel expense and time. Companies may participate in either or both. David Katz, 202-377-4104.

Hotel & Restaurant Equipment Catalog Exhibition. Singapore, Malaysia & Thailand. Oct. 3-12. The rise in tourism in the Far East has created a need for expansion of hotel and restaurant facilities. Singapore currently has more than 10,000 hotel rooms, yet occupancy rates are more than 90 percent during peak periods and 75 percent during the rest of the year. Malaysia has benefitted from the overflow from the traditional tourist routes, but is unable to handle any further increase. Although Thailand, with 15,000 first-class or deluxe rooms, has been popular for some time, there are plans for expansion of five existing hotels and 18 new hotel projects, for an additional 4,170 rooms. Catalog Exhibition Section, 202-377-3973.

Process Controls Seminar Mission. Kuwait, Saudi Arabia and Syria. Oct. 3-19. Will highlight the efficiency and quality control aspects of U.S. process control technology as applicable to host country needs. Saudi Arabia's $142 billion economic development plan (1975-1980) has created many opportunities for U.S. suppliers of process control equipment. U.S. exports of such equipment to Kuwait doubled from 1974 to 1975, reaching about $800,000. Aside from excellent sales prospects in the petroleum and petrochemical industries, other prime industrial buyers include natural gas, power generation, water resources and treatment, heavy industry (steel, rubber aluminum) and telecommunications sectors. Arthur J. Laemmerzahl, 202-377-3741.

Tandem Micro/Mini Computer Equipment Exhibitions: U.S. Trade Center for Scandinavia, Stockholm, Oct. 10-12; and Systems '77, U.S. Pavilion, Munich Fairgrounds, Oct. 17-21. These two major exhibitions of significant importance to the European market feature micro/mini computer systems, peripherals, software and services. They are timed to permit companies to take part in both. Sweden is one of Europe's most significant growth markets for such equipment. SYSTEMS '77 is the largest single computer exhibition in Europe, and will provide access to the world's third largest market for micro/mini computers and related equipment. Contact Dwight L. Umstead, 202-377-4414.

Stereo/Hi-Fi & Home Appliances. U.S. Trade Center, Tehran. Oct. 16-20. This will be the first U.S. consumer oriented show to be promoted in the Middle East. Given Iran's limited production capabilities in this field, imports of these products should reach an estimated $300 million in 1980. Scheduled at an opportune time for U.S. manufacturers to take advantage of this impressive demand, generated largely by changing tastes and escalating income status among many of Iran's 34 million. Karl Reiner, 202-377-2952.

Printing and Graphic Arts Exhibition. U.S. Trade Center, Sao Paulo. Oct. 17-21. U.S. graphic industries exports to Brazil grew by 21 percent between 1973 and 1975, from $16.4 to $19.9 million. Brazilian printers have a reputation for emphasis on high quality production, latest technology and quality control. The graphic industry should continue to grow at about a 10 percent rate, as firms expand the variety of work done in a move to meet rising costs of labor, paper and supplies. G. Lincoln McCurdy, 202-377-5427.

Offshore Oil Exploration, Drilling and Extraction Equipment and Technology Technical Sales Seminar. Poland, Romania and Bulgaria. Oct. 24-Nov. 4. All three countries, faced with declining oil reserves, high prices on imported oil, and rapid increases in demand for energy, are planning to step up exploration for offshore oil. Products with high sales potential include: jack-up drilling rigs with spare parts, floating drilling platforms, drilling vessels, automation and control equipment, high pressure air injection equipment, and material handling equipment used in offshore oil exploration, drilling and extraction. Alice Clark, 202-377-2348 or 4810.

AGRIQUIP '77. Jakarta. Oct. 31-Nov. 4. This market is expected to more than double to approximately $50 million by 1980. The Indonesian Government is giving priority attention to agriculture, i.e., the reduction of food imports and increase of export earnings from agricultural and processing operations, together with implementation of the Second Five-Year Plan, which allocates $2.4 billion for these purposes. Imports of agricultural equipment (excluding forestry) are expected to rise from $7 million in 1975 to $17 million in 1980. Indonesian authorities seek to process domestically 40 percent of the country's 22 million cubic meters of timber products in the next few years in order to increase export value by processing, tap emerging opportunities in Europe for sawn timber, and reduce Indonesia's dependence on the Japanese market. Logs comprise about 90 percent of total exports, valued at more than $700 million in 1976. Imports of timber production, handling and processing equipment are expected to rise from $14 million in 1975 to more than $30 million in 1980. Contact Ronald McCowen, 202-377-3560.

Computer Software Trade Mission to Japan. November. Japan is the second largest computer market in the world. Expenditures by the manufacturing sector alone on computer hardware were estimated at nearly $1 billion in 1976. It is believed that on-line terminal equipment will spread rapidly—mainly in those sectors needing more efficient data processing, such as the financial community, insurance companies, service industries, etc. By the end of 1985 there will be a total of over 100 000 multipurpose computers in operation and the software industry will register a total of some $1.1 to $1.7 billion in sales. The Japanese software industry, nevertheless, is relatively underdeveloped when compared to the U.S. industry. In recognition of this, the Japanese Government has just liberalized controls on foreign activity in the software industry. Previously, it was virtually impossible to import software into Japan, so only now is the market open to U.S. software packages. In addition, Japan's Patent Office adopted evaluation standards in 1976 allowing for certain types of computer software to be patented, making Japan the first of the developed countries to take up the problem of patents for software. Wanda Ale, 202-377-3119.

Rehabilitation USA—Aids to the Handicapped and the Disabled Exhibition and Technical Seminar. U.S. Trade Center, Tokyo. Nov. 7-11. The United States is recognized as a world leader in the field of rehabilitation, and yet many advanced American products and technologies are virtually unknown overseas. This event, the first in this field mounted by the U.S. Government and the first such show held in the Far East, will enable U.S. firms to enter the growing international rehabilitation market. It is estimated that there are more than 500 million handicapped persons worldwide. The rehabilitation market in Japan alone should

reach $277 million by 1980. The exhibition will feature five major product/technology categories: orthotics and prostheses; architectural/transportation and mobility; physical and occupational therapy; sensory aids/adaptive systems; and educational/training systems. A prestigious technical seminar will be the forum for a healthy exchange of information. Contact Irwin Nathanson, 202-377-4390.

Electronic Components Exhibition. U.S. Trade Center, London. Nov. 7-11. The U.K.'s present consumption of electronic components is $1.2 billion, while imports reached $488 million in 1976. The rate of growth of U.S. exports to the U.K. over the next three years is forecast at 23 percent per year. U.S. exports represented 35 percent of 1976 imports. American-made equipment is sought for its advanced technical sophistication and reliable delivery times. Robert Connan, 202-377-3465.

Heating, Ventilation and Air-Conditioning Equipment Exhibition. U.S. Trade Center, Stockholm. Nov. 8-11. The Scandinavian market for HEVAC equipment in 1975 amounted to $2.8 billion. Of this, Sweden (the principal Nordic market) accounted for $1.4 billion. Market research has recently identified a large number of best sales prospects in all four Nordic countries. The exhibition will focus on three groups of end-users and service organizations: architects, engineers, contractors and building consultants; purchasing agents for school systems, hospitals and governments; and wholesalers, original equipment manufacturers and distributors' representatives. The market for air-conditioning equipment has increased 100 percent in the last four years due to warm summers. There is now some leveling off, and a 5 percent annual growth is projected. Best sales prospects for U.S. firms include climate control measuring devices and self-contained air-conditioning units. Call Jim Price, 202-377-3276.

Tandem Exhibitions: Electronic Production and Test Equipment, U.S. Trade Center, Paris, Nov. 14-17; Productronica '77, Munich Fair Grounds. Nov. 22-26. U.S. manufacturers may exhibit at either or both shows to increase their share of a Western European market expected to reach $343 million this year. The Paris Trade Center staff will arrange shipment of exhibit material from Paris to Munich in time for the opening of Productronica '77. Contact Don C. Schmadel, 202-377-2920.

Lagos International Trade Fair. Nov. 27-Dec. 11. The Nigerian $50 billion Third National Development Plan (1975-80) makes provisions to improve many inadequacies in economic development. Among areas given primary importance are agricultural development, improvement of the communications network, building and road construction. The Plan allocates $3.6 billion for strengthening of the agricultural sector. There is no local production or assembly of agricultural equipment. Imports are expected to reach $50 million by 1980. Expenditures on expansion of the telephone and telegraph system alone represent a potential market of over $1 billion between 1975 and 1980. Virtually all communications equipment must be imported. Nigeria's rapidly increasing population, as well as its expanding economy as a result of mounting income from oil revenues, has created a boom in the building and construction industry. Reginald F. Biddle, 202-377-4564.

Licensing, Investment Abroad

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Overseas Products and Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to any of the specific proposals listed.

WTDR indicates that a World Traders Data Report containing financial and background information on the foreign firm is available for $15 from the Export Information Division, Room 1033, U.S. Department of Commerce, Washington, D.C. 20230. WTDR request forms may be obtained from any Commerce District Office.

OPIC indicates that the country involved is eligible for investment insurance coverage and financing from the Overseas Private Investment Corporation. Information regarding applicable coverage may be obtained from OPIC, Washington, D.C. 20527.

PAPUA NEW GUINEA — Government has recently prepared Third National Investment Priorities Schedule, which specifies those industries in which foreign investment is actively encouraged. These include **minerals and petroleum, forestry, fishing, agriculture, manufacturing, tourism.** Schedule also lists other operations open to foreign investors and defines guidelines for new foreign investment. Further information available from: Executive Director, National Investment and Development Authority, P.O. Box 5053, Boroko. P-77561.

PHILIPPINES — Seeks joint venture partners who can provide **equipment for manufacture of reinforced concrete pipes, construction of 20 km. 3-m.-diameter aqueducts, and building of 200-MGD water treatment plant.** Firm plans to establish concrete pipe factory primarily to supply requirements of the $169 million Manila Water Supply Project, being undertaken by Metropolitan Waterworks and Sewerage System (MWSS), which will be bid this year. The MWSS encourages foreign contractors to form joint ventures with Philippine firms to execute portions of this project. Company is presently manufacturing 3" to 24" diameter grey centrifugally cast iron (CCI) pipes and reputedly is the only CCI pipe manufacturer in Philippines. It also produces both soil and water pipes on job order basis including manholes, elbow pipes, pipe fittings, gate valves, fire hydrants. Firm owns 30,500 sq. m. compound of which 4.5 acres is to be utilized for proposed factory, in addition to 2-acre adjacent lot which it intends to purchase for project. Company is engaged in construction of San Pablo City Water Supply Project, Cagayan de Oro City Water Supply Project, and Cagayan de Oro City Port with total contract of $5.7 million. Pablo M. Silva, Pres., Filipino Pipe & Foundry Corp., P.O. Box 1329 Manila; cable, PASILVA MANILA. P-77588. OPIC.

2452 — ECUADOR — Seeks U.S. partner prepared to co-manage and take up to 49% equity in project to manufacture **prefabricated low-cost housing panels.** American partner will have to contribute panel design and production method know-how for plant which is estimated to cost $250,000. Annual production is estimated to be about 1 million sq. m., equivalent to 5,000 homes. Materials to be used will be purchased locally, also imported. Correspondence may be in English. Jeronimo Aviles-Borrero, Mgr., TACISA—Technica Agricola Comercial e Industrial S.A., P.O. Box 6545, Guayaquil. WTDR. P-77562. OPIC.

2499, 2599 — FRANCE — Seeks licensing agreements for production of any construction equipment which would be complementary to its activity, e.g., **tubular and overhead traveling scaffolds, hospital beds.** Firm manufactures scaffolds and mechanisms for convertible seats and beds. J. P. Biraud, Duarib S.A., Route de la Limouziniere, 44310 St. Philibert de Grandlieu. Telephone, (40) 78 70 19; telex, 711 417. P-77590.

2819—INDIA—Seeks collaboration with U.S. firm that has technical know-how to extract **sulfur** from gypsum. Firm is willing to consider any suitable arrangements, e.g., licensing, joint venture with equity participation. Overseas Products and Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. WTDR. P-77603. OPIC.

2834 — GERMANY — Seeks licenses to manufacture broad line of **prescription and non-prescription pharmaceuticals.** Company would prefer to obtain basic raw materials and active ingredients from U.S. sources and process these under license. Established 1872, firm sells worldwide with emphasis on EEC and EFTA countries; annual sales, $4.5 million. Present product line includes dermatological, gastro-intestinal, oropharyngeal and rhinological preparations; also antibiotics, laxatives, sedatives, analgesics and anti-influenza drugs. Bernhard Brand, Mgr., Commercial Operations, Karl Engelhard Fabrik Pharmazeutischer Praeparate, Sandweg 94, D-6000 Frankfurt/Main. Telephone: 0611-430271; telex, 4-189217. P-77563.

2865, 2869, 2891—GERMANY—Seeks licenses to manufacture **cyclic dyes, synthetic organic pigments, rubber processing chemicals, bituminous adhesives, synthetic resin, rubber adhesives.** Firm makes chemical preparations and auxiliary products for lacquer industry. Founded 1904, employs 25; annual sales, $3.2 million. Dr. Crebert, Mgr., Lechner & Crebert GmbH. Duesseldorfer Str. 17-19, D-6800 Mannheim 81. **Cable,** LACKLECHNER MANNHEIM; telex, 04-63195; telephone, 0621/895035. P-77564.

2891, 3272—GERMANY—Seeks licensing and joint venture agreements to manufacture items in following product groups: **Sealants, adhesives, coatings for**

interior and exterior surfaces; novel technology for application of all types of concrete; heat insulated structural panels. Established 1961, firm manufactures, exports, distributes product lines listed above. Is also interested in selling technology in these fields. Company has staff of 120 and reported 1976 sales of $8.2 million. Manfred Graeff, Mgr., ALSECCO Bauchemische Produkte GmbH & Co. KG., D-6444 Richelsdorf-Wildeck, Nr. Kassel. Telephone, 06626-317; telex, 0493381 linrid. P77565.

2891—JAPAN—Seeks exclusive licensing or joint venture agreement to produce **multi-purpose adhesives which are melted at high temperatures** before use, such as in construction industry, especially for prefabricated housing. Established 1929, firm makes variety of chemicals including ethylene glycol, methanol, sodium sulfite anhydride, polyester films, photographic chemicals, medicine, pharmaceuticals. Employs 400, has 6 plants, annual sales, $25 million. Is wholly owned subsidiary of Japan's largest spinning firm. Koichi Numata, Dir., Toyo Kasei Kogyo K.K., New Daibiru Bldg., 25-1 Hamadori 1-chome, Dojima, Kita-ku, Osaka 530. Telephone, Osaka (06) 344-9971; telex, 5236860 J. P77566.

3079—SWITZERLAND — Leading Swiss manufacturer of plastic and metal tanks, silos and pipes, is seeking licensing agreements for manufacture of **glassfiber reinforced plastic silos, tanks, pipes.** Employs 360; annual sales, $16 million. Dr. A. J. Petermann, Mktng. Mgr., Metallwerk Buchs AG, 9470 Buchs. Cable, METALBACHS; telephone, 085/60161; telex, 74264. P-77592.

3079, 3221, 3499 — SWITZERLAND — Seeks technology to manufacture items in following fields: **Plastic packing and shipping containers for pharmaceuticals; bottles and vials for pharmaceuticals with attractive designs and with child-proof closures; collapsible tubes, plastic thermosetting or thermoplastic; caps and closures for jars, bottles, and metal collapsible tubes; jars and tubes of special design for cosmetics and ointments with special patented closures; other new types of plastic packaging for pharmaceuticals.** Firm is well established company which employs eight people and specializes in plastic packaging materials and shipping containers for pharmaceutical industry. Kurt Heiniger, Dir. COPLAX AG, Kreuzstr. 72, CH-8008 Zurich. P-77567.

3221—JORDAN—Jordan's Pension Fund is seeking joint venture partner for manufacture of **glass containers.** Organization is preparing prefeasibility study for production of glass containers for pharmaceuticals, soft drinks, beer and other alcoholic beverages, and jars for food industry. Foreign partner will be expected to contribute some equity, render technical services. For additional information contact: Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77591. OPIC.

3229—DOMINICAN REPUBLIC—Seeks joint venture agreement for production of **glassware.** Firm imports industrial materials. Norman G. Matias, Gen. Mgr., Dominicana Internacional, C. Por A., P.O. Box 1903, Santo Domingo. Telephone, 682-3013; telex, 3460388. P-77589. OPIC.

3272 — GERMANY — Seeks novel technology and licenses for processing of ordinary and **prestressed concrete, steel, timber** in prefabrication of parts, wall systems, ceilings, surface building construction, steel concrete storage tanks and miscellaneous products used in landscaping, gardening. German company would also consider joint venture. Established 1864 as manufacturer, distributor of products made of concrete for use in building industry. In subsequent years, firm has specialized in production of specially designed assembly parts, modules, components, construction systems for walls and ceilings used in residential homes, offices, industrial buildings, shopping and sports centers. Also produces steel concrete storage tanks designed for capacities of up to 8,000 liters, as well as miscellaneous products made of various types of concrete for use in landscaping, gardening. Messrs. Adolf and Michael Reeh, Mgrs., J. Reeh Aktiengesellschaft, Schlossberg 8, D-6340 Dillenburg. Telephone: 02771-7001. P-77568.

3339—MEXICO—Offers to **sell factory which processes silver and its alloys for industrial use.** Employs 20 workers trained by U.S. engineers. Recent four-month sales, $2 million. Sale price is $6.5 million. Located in state of Tlaxcala. Mrs. Sonny Charlote Pelz Von Wintersberg, Lava 281, Mexico 20, D.F. Telephone: (905) 568-8918 or (905) 568-1742. P-77569.

3411, 3537, 3715—NORWAY—Norway's largest company seeks license or joint venture to manufacture **aluminum truck and trailer equipment such as container platforms, containers, delivery van bodies.** Firm produces aluminum, plastic laminates, chemicals, fertilizers, gases, magnesium, petroleum, other products. Employs 8,600 in Norway, 1,300 abroad; reports annual sales of $800 million. Norman Fransson, Sales Mgr., Norsk Hydro A/S, Karmoy Fabrikker, 4265 Havik. WTDR. P-77570.

3423, 3541 — KOREA — Firm seeks prospective business partners in proposed $2 milion, 51-49 joint venture for manufacture of **hand tools, machine tools.** Firm expects local market for hand tools to grow at accelerated rate due to ROKG plan for development of machinery industry. Company is registered offer agent, official status required in Korea to represent foreign suppliers and submit price quotations in its own name. Young G. Kim, Pres., Sureung Trading Corp., C.P.O. Box 4187, Seoul 100. Telephone, 777-3625; cable, SUREUNG TRACO, Seoul. WTDR. P-77601. OPIC.

3443, 3448—VENEZUELA—Seeks collaboration for construction of new plant in Barquisimeto to produce 50,000 kilos per month of **fiberglass products, particularly tanks of all sizes.** Plant will require filament wind machine to wind cylinders from 80 to 360 m. diameter with length of 5 m., as well as accessory equipment. Firm expects to invest $250,000-500,000 in equipment. Is also seeking to collaborate with U.S. company which will provide molds and technology on royalty, licensing or joint venture basis to produce **fiberglass bulk storage silos for feed.** Company representatives planning to visit U.S. in May. Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77593.

3494 — MEXICO — Large firm seeks licenses to manufacture **fluid handling devices and machinery such as valves, pumps.** Company presently makes valves, tubing, foundry, forging equipment. Annual sales, $10 million; employs 4,000; markets throughout Mexico. Ing. Jose Luis Candela Cano, Project Mgr., Empresas Lanzagorta, S.A. De Cv, Insurgentes Centro 66-Second Floor, Mexico 4, D.F. Telephone, (905) 566-6611; telex, 017 72655. P-77571.

3500—GERMANY—Seeks licenses to produce **hydraulic systems** for wide range of industrial applications. These include machine tools, heavy machinery, ship building, rolling mills, farm equipment, complete fluid power systems. Firm is manufacturer of custom built hydraulically driven equipment such as winches, dredges. Werner J. Form. Geschaeftsfuehrer, W. Josef Form, Maschinenbau KG, 6255 Frickhofen. Telephone: 06436-1750. P-77572.

3531 — SPAIN — Large company seeks joint venture to expand product line. Needs financing ($1-$2 million), technology to produce **self-propelled concrete mixers, industrial garbage collection equipment, refuse and garbage truck bodies.** Firm is flexible regarding arrangements, prepared to offer U.S. concern management participation. Company manufacturers cement mixers, concrete preparation plants, garbage collection equipment; markets in Europe, Latin America, Africa, Near East. Jose Lostao, Mgr., Baryval, S.A., Ctra. de Madrid Km. 316, Zaragoza. Telex, 58080 BARY-E; telephone, 332-100; cable BARVAL. P-77573.

3535, 3531—AUSTRALIA—Seeks licenses to manufacture **conveyor and dragline equipment and sugar mill machinery.** Firm is engaged in repair and maintenance of conveyors, chutes, sugar mill equipment and ships; wants to diversify operations. Employs 89. A. Mostert, Mng. Dir., Gladstone Engineering & Steel Fabrication Co., P.O. Box 371, Gladstone, Queensland, 4680. P-77585. WTDR.

3535—GERMANY—Seeks licensing and distribution rights for **heavy duty, pneumatic cement conveying and handling equipment designed for capacities up to 200 cu. ft. per hour.** Equipment would be used in Middle East where company is engaged in contracting work. Firm is wholesaler, distributor of construction machinery such as compressors, pumps, materials handling equipment. Has recently expanded market area to include Saudi Arabia, other Middle East countries. Gerhard Eichler, Prokurist, Pressluft-Frantz KG, Hauptverwaltung, Flinschstr. 45, 6000 Frankfurt/Main 60. Telephone, 0611-41-80-51; telex, 417355. P-77574.

3559—FRANCE—Manufacturer, distributor of **electroplating equipment** seeks licenses to make additional electroplating products. Established 1958, firm employs 75. Has annual sales of $5 million, good reputation. Andre Lefebvre, Commercial Mgr., Ets. Lefebvre Otomat, 14 rue du Bel Air, 95340 Persan. Telex, 691158 F; telephone, 470 04 06. P-77575.

3559 — SWITZERLAND — Seeks to expand its production program through licenses, similar agreements. Is interested in manufacture of **stainless steel chemical processing equipment** such as blending and mixing machinery, vessels, novel type heat exchangers, emulsifying systems, extraction plants, shaking systems; **conventional type equipment for use with nuclear power plants; advanced sewage equipment for use in biological and chemical waste water treatment.** Firm is experienced and well equipped for any

manufacturing operations with stainless steel. Swiss chemical industry is main customer. Management familiar with U.S. business methods. In 1976, increased sales by 15%. Excellent financial reputation. H. U. Walser, Romabau AG, 8570 Weinfelden. P-77576.

3563—JAPAN—Seeks licensing, agency agreements for **industrial paint shop equipment, including spray guns, tanks, accessories.** Also interested in paint shop pollution control equipment featuring health protection devices. Firm specializes in distribution of paint shop supplies. Operates 10 branch offices throughout Japan; 1976 sales, $3.7 million. Is subsidiary of a major distributor of metal surface treatment equipment. Representative of Japanese company plans U.S. visit in May or June to meet interested American firms. Umao Yamaguchi, Osaka Branch Mgr., Parker Arrestor Co., Ltd., 893-4 Shimeno, Neyagawa City, Osaka Prefecture 572. Telephone: 0720-27-2961. P-77586.

3569, 3443, 3079, 3321, 3820—GERMANY—Leading manufacturer of controls, measuring instruments and fittings is seeking licensing agreements for production of **supreme quality filters for liquids and gases, measuring instruments for pollution control, atomic waste containers, plastic fittings, special fittings for low temperature.** Employs 2,700. Maintains sales outlets throughout Germany and most industrialized countries of world. Dipl. Ing. Kurt Schneider-Winden, Mgr., Boop & Reuther GmbH. Carl-Reuther-Str. 1. D-6800 Mannheim 31 (Waldhof). Telephone, 0621/7503206; telex, 0463 281; cable, BOPREUTHER MANNHEIMWALDHOF P-77594. WTDR.

3569—UNITED KINGDOM—Large producer of dump trucks, industrial gas turbines, gas turbine generators seeks to diversify its product line. Is interested in licenses to manufacture **gearboxes, small pumps, compressors or similar products.** Firm employs 1,000, operates three modern, well equipped plants. J. White, Sr. Project Engineer, Centrax Ltd., Shaldon Rd., Newton Abbott, Devon TW12 4SQ, England. P-77577.

3569—UNITED KINGDOM — Interested in manufacturing under license **liquid screens, filters, novel types of mechanical equipment for waste water treatment.** Presently produces water and sewage screens. Established 1900, has 230 employees. Is affiliated with Hawker Siddley group. O. Berger, Technical Dir., F. W. Brackett & Co. Ltd., Colchester, CO2 8LB, England. P-77602.

3589—FRANCE—Seeks to manufacture under license **water treatment, reverse osmosis systems.** Firm employs 15, plus two salesmen. Robert Andrieu, Dir. Gen., S.A. Eau & Industrie, 13 City Joly, 75011 Paris. Telephone: 700 35 39 and 700 81 36. P-77578.

3600—AUSTRALIA—Firm specializing in development and marketing of new products is interested in ventures with U.S. designers of unique, innovative devices. Interests include products in **security, vehicle parking, electronics, computer and related fields.** Also interested in new construction techniques. Firm has designed homes, light aircraft, gliders. Representative of the concern plans to visit U.S. next fall. S. C. Clark, Mng. Dir., Arunta Investments, P.O. Box 49, Bankstown, New South Wales 2200. WTDR. P-77579.

3600, 3825 — GERMANY — Small firm seeks licenses to produce **d.c. converters, regulated power supplies, electronic instruments for measuring and testing electric quantities and properties.** Company manufactures, distributes electrical and electronic equipment, operates rented facilities. Dr. Ing. Madhav D. Khadikar, Mgr., Hema Hengstler Elecktronik & Marketing, GmbH, Alexanderstr. 29, D-7000 Stuttgart 1. Telephone, 0711 24 78 24; telex, 07-21 758. P-77580.

3634—BRAZIL—Major manufacturer of **electrical appliances** seeks joint venture to expand operations. Is interested in obtaining financial and technical assistance, machinery, equipment, use of patents and trademarks. Offers equity, management participation. Presently produces electric fans, toasters, heaters, irons, hot plates, motors for electrical appliances. Holds around 45-50% Brazilian electrical appliance market. Established 1927, employs 800. Co. Raymond W. Kahl, Jr., Dir., Tectronic Com. de Equipamentos Ltda., Av. Rio Branco, 245—sala 1003, 20000 Rio de Janeiro, R.J. WTDR. P-77600. OPIC.

3662—GERMANY—Seeks license or joint venture to manufacture **electronic intelligence devices** used in surveillance, wire tapping, related operations. Firm produces, markets similar equipment. Employs 14, sound financial condition. Gesellschaft fuer Mini-Electronic mbH., Badestr. 36, 2 Hamburg 13. Telephone, 040-410 40 75; telex, 21 18 71. Copy of firm's brochure available from Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77581.

3679 — INDIA — Interested in joint venture to manufacture **pre-recorded music cassettes and music cartridges.** Seeks equipment, know-how, cassette pan cakes, other basic materials from U.S. company prepared for equity participation and willing to provide export assistance against overall sales commission. Joint promoters are film producers' associations, entrepreneurs, government sectors. Proposed licensed capacity, 3 million units of pre-recorded music cassettes. 50,000 units of music cartridges annually. Expects to expand into manufacture of magnetic tapes. Anticipates growing domestic market for these products. P. Deb & Assoc., Management Consultants, 58/32, Prince Anwar Shah Road, Lake Gardens, Calcutta 700 045. P-77582. OPIC.

3728, 3662 — FRANCE — Seeks licensing agreements for manufacture of **electronic and mechanical equipment, measurement devices** used in following industries: aircraft, space armament, sea exploitation. Firm is large manufacturer of aircraft equipment, special rotary machines, material handling equipment for airports. Established 1920, employs 540. Bertrand Javary, R. Alkan & Cie, rue du 8 Mai 1945, 94460 Valenton. Telephone, 925 39 90; telex, 600 876. P-77595.

3732, 3079—SOUTH AFRICA—Seeks licenses to manufacture **automobile truck canopies, auto-top dinghy hulls, small boat hulls (15 ft. or less).** Especially interested in producers using ABS plastic as firm will be importing an Italian made extruder with capacity of up to 2.2 m. in width and 1.2 m. in thickness. Company currently produces sheet extrusions and large vacuum forgings; has 80 employees. Is subsidiary of Ampaglas of Milan, reportedly established in 1930s. M. A. Bayliss, Mgr., Cape, Ampaglas S.A. (Ptv) Ltd., P.O. Box 126, Salt River 7925. WTDR. P-77587.

3811 — GERMANY — Seeks licenses for production of basic **laboratory electrical equipment, e.g., pumps, stirrers, ultrasonic devices, monitoring devices for flow, centrifuges, timers, and viscometers.** Firm is interested in importing motors, assemblies, components to assemble laboratory equipment. Manufactures stainless steel non-electrical laboratory equipment for schools, universities, research laboratories, industry. Juergen P. Bochem, Prokurist, Bochem Instrumente GmbH, Postfach 1228, Industriestr. 3, D-629 Weilburg/Waldhausen. Telephone, 06471-3007; telex, 484 225. P-77596.

3811 — UNITED KINGDOM — Manufacturer, distributor, importer, exporter of **metrology equipment, gas instrumentation and inspection machines, electronic components,** is seeking licensing agreements for manufacture of similar items. Established 1887; employs 370. J. B. Watts, Gen. Mgr., Herbert Controls & Instruments Ltd., Spring Rd., Letchworth, Herts, England. WTDR. P-77597.

3823—GERMANY—Seeks licensing agreements for manufacture of **process control instruments, counting devices, electronic measuring instruments.** Agreement could be preceded by agency arrangements. Firm would also consider joint venture with U.S. company for production or assembling in Germany. Presently produces various electricity and electrical measuring instruments with emphasis on thickness measuring for steel rolling mills. Dr. Fritz Brueninghaus, Dr. Brockhaus Messtechnik GmbH KG, Harffstr. 36, 4000 Duesseldorf. P-77598.

3931—GERMANY—Manufacturer of musical instruments is interested in licensing arrangement for production of its instruments in Germany. Such instruments are: **harmonicas, accordions, saxophones, electronic musical instruments, amplifiers for musical instruments, small electronic computing equipment.** Employs approximately 2,000 persons in Germany, 3.000 worldwide. Michael R. Alder, Sales Mgr., Matth. Hohner AG, Hohner Str. 8, D-7218 Trossingen. Telephone, 07425/20-479; telex, 760727. P-77583. WTDR.

4411—PAPUA NEW GUINEA—Government of Papua New Guinea plans to establish **national shipping line** and is looking for partner to supply management and part of capital. Scope of project will depend on proposals received, but will involve international shipping and perhaps some coastal shipping. Papua New Guinea sea freight expenditure each year is about $120 million. John Bowering, Department of Public Works and Transport, P.O. Box 2312, Konedobu. Telex, NE 22203. P-77599.

Licensing In U.S.

For additional information on these opportunities to manufacture foreign firms' products in the United States under a licensing agreement or in partnership, write the Domestic Investment Services Staff, Bureau of International Commerce, Room 4020, U.S. Department of Commerce, Washington, D.C. 20230 (202-377-5361), referring to file number.

Investment

FRANCE—Will invest up to $2 million in small chain of low price, fast food, French style restaurants and/or food

processing plant for preparation and freezing of French cuisine meals for sale to supermarkets or restaurants. Desires populous area with access to fresh food products. M. Gerard Pollion, Mouline de Ponseault, 21 rue de la Tannerie, 28000 Chartres. File 3374.

Joint venture

FRANCE—Restaurant supplies, specifically uniforms, tablecloths, towels. Wants to establish joint venture on east coast or in midwest U.S. Axel Poniatowski, 31 rue Voltaire, 92802. File 3375.

FRANCE—Mining equipment, specifically ventilation systems, locomotives, pneumatic tables. No regional preference for joint venture operation in U.S. David A. Hinchliffe, Berry Manufactures Mining Equipment, 92 rue Bonte-Pollet, BP 3533, 59020 Lille. File 3376.

FRANCE—Building materials: interior and exterior coatings, sealing compounds, other. French company will distribute the U.S.-made products of the venture in France. D. Jardin, Pres., Societe Jarev, 29 rue de la Poterie BP-27, 91104 Carbeil Essonnes Cedex. File 3377.

GERMANY—Commercial baking ovens, large volume, high duty, including custom tailored multi-story oven for cyclothermal heating. Ellen Ditzel-Heuft, Spezialfabrik fuer Backoefen Johann Heuft, Stefanshuegel 15, D-6250 Limburg/Lahn. File 3378.

GERMANY — Air ventilation, heating. Patented technology of air-stream room-partitioning system based on the kinetics principle. Consists of custom-tailored air screens installed at hallways and passages. Air jet flow velocity, density and direction are controlled in such manner as to form irremovable barrier to ambient air. Used in department stores, schools, hospitals, theaters, other commercial buildings. Karl Richard Meuller, Dipl-Ing. (Owner/Mgr.), Karim-Lufttuer GmbH, D-6251 8-Lahn. File 3379.

GERMANY—Industrial chemicals. Seeking U.S. firm now operating as sales/distributor company with compounding facilities for upgrading of industrial chemicals before sale. Mr. Moltzan, Kloeckner Chemie, Memelstr. 25-27, 4100 Duisburg. File 3380.

GERMANY — Advertising, market research. Wants venture in U.S. with small or medium size U.S. firm having total billing of $10 million. Company established 1972, 19 employees; total billing 1976, DM 7 million. Karl-Uwe Siegler, Struwe & Partner, Werbeagentur, Grafenberger Allee 235, 4000 Duesseldorf. File 3381.

Licensing

COLOMBIA — Burglar alarm system. Closed circuit system with U.S. Patent No. 3,980,995, Sept. 14, 1976. Tulio Vasquez-Restrepo, Procontroles-Productora de Controles Ltda., Aptdo. Aereo 17896, Carrerra 15 No. 39-27, Bogota. File 3382.

SOUTH AFRICA—Water meters for irrigation projects of industry and municipalities. Ms. Doris Atkind, Trade Promotion Officer, European American Bank & Trust Co., 10 Hanover Sq., New York, N.Y. 10015. File 3385.

SWEDEN—Plastic pipe cutter, beveler. Patented standard design handles pipes from 2" to 6"; can rapidly be reset for various dimensions. It replaces saws, sawing fixtures, beveling tools, as well as vices and work benches, as it also functions as a pipe holder. Ingemar Persson, 3227 Lilleby, S-423 00, Torslanda. File 3386.

SWITZERLAND — Truck components. Large multinational, diversified group of specialized engineering firms operating worldwide with over 30 sales and production companies seeks U.S. licensee(s) for its reputable fifth wheel program. Potential partners must have sound foundry know-how on nodular iron and hold important U.S. market position in truck and truck trailer components industry. Write: Basil G. Scarlis, Commercial Officer, U.S. Con. Gen., Zollikerstr. 141, 8008 Zurich. File 3387.

UNITED KINGDOM—Water filtering system. Built of corrosion-free fiberglass, system is in form of square box measuring 24" x 24", with false top consisting of compression-molded slotted plate. Unit is buried, open end down, in river bed. It has no moving parts, chemicals or filter media. Company claims that in time the bacterial load will be reduced to level where the water can be safely used for all purposes with no minimal further treatment. Sir George S. Cansdale, Technical Consultant, Sea Water Supplies Ltd., North Parade, The Promenade, Skegness, Lincolnshire PE25 1DB, England. File 3383.

UNITED KINGDOM—Pneumatic equipment for power presses. G. R. Sale, Dir., Gauges & Instruments Ltd., Woodside Works, Summersby Rd., Highgate, London N6 5 UJ. File 3384.

U.S. Representation

GERMANY—Book buyer and representative firm seeking cooperation agreement with small- to medium-sized New York book handler in vicinity of Kennedy International Airport. Stern-Verlag Janssen & Co., Postfach 7820, Friedrichstr. 24-26, 4000 Duesseldorf 1. File 3388.

Lesotho Seeks Investment

The Government of Lesotho offers generous investment incentives to U.S. companies willing to invest in the country. Investment is especially desired in these fields: agribusiness, textiles, electrical and electronic products, wood processing, paper and plastic products, rubber, metal processing, chemicals, handicrafts, tourism, services. To obtain more information about opportunities, please contact J. B. Maieane, First Secretary, Embassy of the Kingdom of Lesotho, 1601 Connecticut Ave., NW., Washington, D.C. 20009. P-77584.

The following trade opportunities are based on reports received from the U.S. Foreign Service—Department of State by the Trade Opportunities Program, Room 2323, U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest indicated by codes 0111-1799 and 4011-8999 are based on the Standard Industrial Classification Manual, 1972; codes 20 through 39 come from Numerical List of Manufactured Products (New 1972 SIC Basis), MC72-1, 2. Codes beginning with 99 are from the TOP coding system.

U.S. firms should be aware that the listing in Commerce America *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Department's Export Administration Regulations. Applicable export licensing regulations must be followed.*

Every effort is made to include only traders with good reputations. However, the Department cannot be responsible for any trade relations.

WTDR indicates that a World Traders Data Report on this specific firm is available at $15 from the Export Information Division, Room 1033, U.S. Department of Commerce, Washington, D.C. 20230. A WTDR is a trade profile which contains commercial information including financial references, on an individual foreign firm. Orders must include complete name and address of the subject firm and be accompanied by payment. Further information concerning WTDRs and request forms are available at each Commerce District Office.

The mark (•) indicates that this trade opportunity is a request for bids by a foreign government agency.

Direct Sales

Dimension stone

1411—GERMANY—Granite; quartz, pure, 99.9 percent silicon content. West Berlin importer, established 1922, desires to act as commission agent for above. Reply to—Herrn Kurt Zimmermann, K. Zimmermann Export/Import, Bundesplatz 14, D-1000 Berlin 31. Tel: (030)-853-22-55.

Heavy construction

• 1620 — HONDURAS — During the months of September and October, Empresa Nacional Portuaria (ENP) will solicit bids from prequalified contractors for Stage I Construction of Port Facilities at Puerto Castilla. The project will include: dredging, 150,000 cubic meters; hydraulic fill, 500,000 c.m.; pile supported wharf, 450 m. long, 17,100 sq.m.; transit shed, 3,000 sq.m.; warehouse, 3,000 sq.m.; port operations building, 800 sq.m.; immigration and customs building, 800 sq.m.; maintenance building, 560 sq.m.; open-sided lumber storage sheds, 3,000 sq.m. ea.; pavement, 185,000 sq.m.; utilities (lighting, power, communications,

water supply drainage); elevated water storage tank, 300,000 gal.; palm oil storage tank, 17,500 barrels; fuel oil storage tanks, 5,000 barrels ea.; bunker fuel oil storage tank, 20,000 barrels; ancillary buildings (guard houses, switch gear rooms, etc.). Interested firms that have satisfactorily performed comparable work apply promptly for prequalification forms to: Tippetts-Abbett-McCarthy-Stratton, 345 Park Ave., New York, N.Y. 10022, Attn: Irving Greenzang; or Cerna y Maier S. de R. L., Apartado Postal 115, Tegucigalpa, D.C., Honduras, Attn: Hector Cerna; or Licenciado Antonio Jose Coello, Gerente, Empresa Nacional Portuaria, Apartado Postal No. 18, Puerto Cortes, Honduras. Prequalification forms must be returned to Tippetts-Abbett-McCarthy-Stratton with a copy to ENP, no later than June 15. Bids will be received only from prequalified contractors.

Sawmills, planing mills

2421213, 2421215, 3429435—SWEDEN—Softwood rough lumber (redwood), 2 in. and over. Intends to buy 200 cu. meters as trial order. Window hardware. Estab. 1935, has share capital skr 350,000 & employs 60. Turnover skr 30,000,000. Sales area: Sweden, 90 percent; Germany, U.K., Denmark, 10 percent. According to local credit sources, co. well established & financially sound. Capable management. Payments met promptly & firm recommended as suitable trade contact. Peterson planning trip to U.S. in mid-June. Reply ASAP to—Rune Peterson, Mng. Dir., Trarydsns Snickerifabrik, Box 2062, S-280 51 Traryd. Cable TRARYDFONSTER; tel 0433/622 60.

Knitting mills, products

2559098—CHILE—Firm plans to install 10 professional bowling establishments to incl. following equipment & furniture; pins, balls; pin machinery, automatic; alleys & access. Requires price quotation f.o.b. & c.i.f. Valparaiso, Chile, catalogs & tech. specs. Total expenditure in equip. approx. $60,000. Write to—Naapadensky Hermanos, Carlos Antunez 2425, Of. 33, Santiago. Claudio Napadensky B. Tel. 254946.

General commercial printing

2752643, 2754493—SPAIN—Calendars & calendar pads. Med. size firm within its field, engaged in mfr., importation, retail & distribution of calendars & calendar pads, desk type, as well as ballpoint pens & other stationery & office supplies. Operates throughout country. Quotations on f.o.b. basis. Direct sale & agency. Call or cable—F. Blanquez Aroca, Mgr., Litart, Dr. Castelo, 48, Madrid 9. Tel 91/274-9837.

Industrial chemicals

2819924—EGYPT—50 metric tons activated carbon with following specifications. Form: Amorphous light fluffy powder with large surface area; moisture: 12 percent maximum; PH: 3-5, 10 percent suspension in distilled water; methylene blue factor: 11-13; ash: 3 percent maximum; filtering property: high; origin: vegetable; decolorizing capacity: 100 percent. To be used in decolorization and purification of glucose syrup prepared from rice starch. Price quotations requested f.o.b. and c.&f., 2 percent guarantee valid for two months after due date required. In event firm order materializes, guarantee will be increased to 10 percent. Two sealed samples of 1 kg each to be airmailed to company. Packing should consist of 5 plies kraft paper plus one inner polylethylene bag of 25 kgs net each. Reply to Foreign Purchase Department, The Egyptian Starch and Detergents Co. (Government Controlled), 30 Salah Salem St., Alexandria, Egypt. Cable: STARCHRICE, Tel. 69546, Telex: PALOT 4027 UN.

2819000, 3069000, 3231000, 3811000—GERMANY—German firm seeking U.S. companies capable of supplying complete laboratory in Egypt. Additional information available from Paguma, Barbara Pavlas, P.O. Box 111, Schlichelder Str. 40, 4530 Ibbenbueren, West Germany.

Drugs

● **2834000—SRI LANKA** — Tenders invited by State Pharmaceuticals Corporation for wide variety of pharmaceutical preparations including antibiotics, injectables and solutions, vitamin tablets and injectables, hormones, gamma benzene hexachloride hair lotion, barbituates, etc. Tender no. DHS/8/2. Closing date June 8. For copies of tender documents contact L. R. McIntyre, Room 2106, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-2239.

Important Notice

Most member countries of the League of Arab States employ a secondary boycott against foreign firms which undertake certain specific types of business relationships with the State of Israel. The Commerce Department will not disseminate nor make available for inspection any tenders or trade opportunity documents which contain conditions intended to support such boycotts, or which are based on documents known to contain such provisions. Trade or investment opportunities published herein are not presently known to be subject to such conditions. However, it is possible that U.S. firms responding to opportunities from Arab countries may be asked at some stage of a transaction to participate in an Arab boycott-related restrictive trade practice as defined in the Department's Export Administration Regulations (15 CFR, Part 369 et. seq.).

Firms are reminded that it is the policy of the United States (a) to oppose restrictive trade practices or boycotts fostered or imposed by foreign countries against other countries friendly to the United States, and (b) to encourage and request U.S. concerns engaged in the export of articles, materials, supplies, or information to refuse to take any action, including the furnishing of information or the signing of agreements, which has the effect of furthering or supporting such restrictive trade practices or boycotts. Accordingly, U.S. concerns receiving such requests to participate in a restrictive trade practice or boycott are encouraged and requested to refuse to comply with them.

Firms are further reminded that U.S. concerns receiving requests to participate in a restrictive trade practice or boycott must report such request to the Department of Commerce in accordance with Section 369.4 of the above-cited regulations.

● **2834000, 2841000, 2842000, 2879000, 3841000—ZAMBIA**—Tenders invited for supply of galenicols and manufactured preparations to medical stores in Lusaka. Tender No. MF/MPC/6. Closing date June 3. Products include creams, ointments, disinfectants, powders, drips, fluid extracts, insecticides, sprays, pastes, surgical instruments, specialty soaps and detergents, solutions, syrups, and tinctures. For copies of tender documents, contact: L. R. McIntyre, Room 2106, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-2239.

2833261—GERMANY—Chemicals & pharmaceutical raw materials. Medium-size firm, good reputation. Reply to—Herr Klose, Georg Hoevermann & Co., Moenckebergstrasse 13, 2 Hamburg 1. Tel. 040 33 66 46; telex 2 162247.

Perfumes, toiletries

● **2842000—ZAMBIA**—Supply of polishes for shoes, cars, furniture, brass, silver, stoves and floors on "as and when required" basis over period August, 1977 to July 31, 1978. Secretary, Republic of Zambia, Central Supply and Tender Board, P.O. Box 1009, Lusaka. Tender Number MF/GS/459. Bid deadline June 3. List of polishes required and instructions for tenderers available from U.S. Department of Commerce, BDC/OBRA, Materials Division, Room 2104, Washington, D.C. 20230; 202-377-3420.

Chemical products

● **2890000, 3530000, 3570000, 3860000—THAILAND** — Royal Irrigation Department (RID), Samsen Rd., Bangkok, invites firms to bid for ten 5-cu. ft. concrete mixers with portable, tilting drum; soil testing equipment and chemicals; one combination Diazo printing machine; one electronic calculator; one camera; one slide projector; one tape-recorder with slide synchronizer; one duplicator; one 16 mm. movie projector; two typewriters. Financed by ADB general fund loan. Tender documents $5 per set from address above, must be obtained prior to submitting offers. Refer to Bid No. NW-1-4. Bid deadline June 7.

Fabricated rubber products

3069373—GERMANY — Door mats made of rubber compounds (ASTM R-707). Medium-size firm, good reputation. Reply to—Herr O. G. Golze, Otto Golze Soehne, Werftstrasse 20, 325 Hameln. Tel. 05151 7131.

3069598—SWEDEN — Weather stripping for doors & windows. Direct sale for resale & agency. Siostrom is construction engineer, operates as consulting engineer. Business established 1976. Previously employed by real estate firm owned by bank. Former employer describes him as diligent & capable. Reliable local credit source recommends business relations & adds that Siostrom has sound financial position. This is newly established business & due business precautions should be observed. Reply to—Bjorn Siostrom, Ingenjorsfirman, Kingsvagen 22, S-302 70 Halmstad. Tel. 035/316 06.

Pottery, related products

3261051—CANADA—Bathroom accessories, towel bar holders, soap holders, toothbrush holders, tumbler holders. Direct sale (resale), excl. distr. Requires

delivery maximum 4 to 6 weeks from date of receipt of order to dispatch of goods. Pays by irrevocable L/C or, after account proved satisfactory, by U.S. check. At present company wishes to purchase for own account & depending on individual circumstances act as agent/distr. Newly established, operates as importer, wholesaling & distributing various U.S. & European products. Line incl. toys, brassware, grenadier silver, plating copper reproductions, & gold plated bathroom fixtures. Sells to retail outlets & has 2 reps. covering W. Canada & Nw. U.S. Reply to—Donald C. Johnson, Johnson Trading, 307-1425 Esquimalt, P.O. Box 91684, West Vancouver, B.C. V7V 3P3. Tel 604-922-1981.

• **3264000, 3612000, 3640000, 3825000—INDIA**—Conductors: 16 sq. mm. Ce Aac—3820 km; 13 sq. mm. Ce Acsr—2465 km; 20 sq. mm. Ce Acsr—430 km; 30 sq. mm. Ce Acst—560 km. 11 kv class distribution transformers, 25 kva 11/0.433 kv 940 nos. Porcelain insulators & insulator fittings: for 11 kv overhead power lines, pin insulators, 13,000; pins for pin insulators, 59,000; strain insulators, 11,000; fittings for strain insulators, 21,000. For 415/240 volt overhead power lines: pin insulators, 110,000; pins for pin insulators, 132,000. Three-phase 4-wire whole current volt-hour meter, 10 am-40. Bidders must procure tender documents from Controller of Stores, Assam State Electricity Board, New Town, Uluberia, Gauhati 781007, Assam, prior to submitting offers. Refer to Bid No. IDA/REC/ASEB/2. Bid deadline June 27. Above items are urgent requirements of ASEB for rural electrification program, financed by IDA.

Steel mill products

• **3310000—BOLIVIA** — Supply of structural steel for two power houses. Tender No. 49P-E2052 and 50P-E2069; bid deadline June 28. Empresa Nacional de Electricidad, Casilla 565, Cochabamba. Tender documents available from above address at $50. U.S. firms must have Bolivian representative.

Iron, steel foundries

• **3320000—EL SALVADOR** — 2.6 kilometers of ductile cast iron pipe and fittings; 39.4 km. OD ductile cast iron pipe and fittings. Tender No. IM-2-77; bid deadline June 16. Oficinas Proyecto Zona Norte, Boulevard El Hipodromo 609, Colonia San Benito, San Salvador. Tender documents available from above address at colones 100 (about $40).

Rolling & drawing nonferrous metals

• **3350000—EL SALVADOR** — 6 kilometers of double circuit transmission line of 115 KV, and supply of shield wire. Tender No. CEL-523; bid deadline July 11. Comision Ejecutiva Hidroelectrica del Rio Lempa, Calle Poniente No. 950, San Salvador. Tender documents available from Harza Engineering Co., 150 South Wacker Dr., Chicago, Ill. 60606.

3356971—JAPAN—Zinc sheets for roofing. Direct sale & agency. Small importer-distr. of chinese goose-down pillows, bedsheets, & housewares. Has chain stores in Okinawa. Financial reputation good. Reply to Shisho Toma, Pres., Toma Shoji Inc., 1635-8 Awase, Okinawa City (904-21). Cable TOMASHOJI, AWASE; Tel. 098938-0685.

Fabricated structural metal products

• **3441000, 3643000, 3644000—INDIA**—General Manager-Cum-Chief Engineer (Transmission), Bihar State Electricity Board, Vidyut Bhawan, Patna 800001, Bihar, invites firms to bid for transmission towers; conductors; groundwire; insulators. Complete with accessories for 220 kv double circuit overhead crossing of river project, financed by IDA. Bidders must procure tender documents from above address for RS 100 ($11.41) prior to submitting offers. Refer to bid no. IDA/BSEB/12. Bid deadline June 28.

Construction, mining, materials handling machinery, equipment

• **3531000, 3662000, 3711000—TURKEY**—Orman Bakanligi, Orman Genel Mudurlugu, Ankara, invites firms to bid for 36 crawler tractors, 6-cylinder in-line, max. 2200 rpm. min. 180 hp (SAE) diesel, 14,000 kg size with 22 inches track shoes, min. 400 mm x 960 mm. moldboard angle-dozer blade, root rake & hydraulic ripper. 10 crawler tractors, 4 or 6-cylinder in-line, max. 2100 rpm., min. 140 hp diesel, 10,500 kg. size with 20 inch shoes, min. 3450 x 900 mm. moldboard angle-dozer blade, hydraulic ripper & root rake. Six vibratory road rollers, min. 7000 kg. basic machine, with steel drum rollers, min. 60 hp/2800 rpm., diesel engine, 2000 to 3000 rpm., 7-ton force vibration on one drum. Six rubber-tired rollers, basic machine weight min. 6,500 kg. ballasted weight min. 14,000 kg., 65 hp/2800 rpm., diesel-powered, 3 wheel front, 4 wheels rear. 15 loaders (crawler tractors), min. 13,000 kg. size tractor, min. 125 hp/2500 rpm, diesel, 15 inch shoe crawler set, 2 cu. yd., hydraulic bucket. Three trailer truck tractors, min. 6-cylinder, 2 or 4-cycle, min. 210 hp diesel, tandem rear axle, 3800-4500 mm. wheelbase, 36 inch fifth wheel, min. 15,000 kg. capacity. 178 ea. radio equip. (25-50 mhz range vhf): stationary transceivers: 100 W; back-pack transceivers: 10 W; vehicular mobile sets: 100 W; remote controlled sets: 100 W; linear power amplifiers (2-18 mhz, 6-channel, for SSB operation): 1 kw; walkie-talkies: 1.5 W. Equipment will be procured from European Investment Bank and IBRD countries. Specifications in English must be obtained from Modern Translation Bureau, Karanfil Sokak 21/4, Yenisehir, Ankara, for $6 each item, prior to submitting offers. Checks payable to Modern Translation Bureau should accompany orders. U.S. firms should forward completed tender documents direct to Orman Bakanligi or through U.S. firm's rep. to buyer. Option 120 days. Delivery period to be quoted in tenders but preferably within 90 days as from date of L/C transfer. Prices in terms of f.a.s.-f.o.b.-c.f.-Istanbul (in US$). Refer to bid no. PL.DKP.IBD. 7-58. Bid deadline June 17.

Metalworking machinery

3549510—PERU — Two automatic machines for mfg. flexible metal conduits, both equipped with automatic winding device. These are 2 complete automatic machines of small to medium size. Requests quotes, payment terms, delivery time, catalogs & other pertinent information. Already has offer from foreign firm but would prefer to deal with U.S. mfr. if terms competitive. Small, well-estab. mfr. of electrical products. Affiliated with 3 other firms, all controlled & managed by Juan Yamamoto. Reportedly these firms well regarded commercially & have sound financial conditions. Contact Juan Yamamoto, Pres., Tuboflex S.C.R.L., Ave. La Marina 2955, Lima 32. Tel. 51-3972.

Office, computing, acct. machines

• **3573000—KOREA** — Office of Supply, Government of Republic of Korea, Seoul. has issued tender number LDA-77100-P2 for supply of minicomputer with 64KW memory and error check and correction unit and accessories. Bid deadline June 17. Copy of specifications available from above address.

Electric transmission, distribution equipment

• **3613000, 3621000, 3629000, 3692000, 3825000—EL SALVADOR** — Comision Ejecutive Hidroelectrical Del Rio Lempa, Calle Boniente No. 950, San Salvador, has issued tender number CEL-529 for supply of control switches, meters, panelboards, relays, batteries, battery chargers, inverters and capacitors. Bid deadline July 29. Prospective bidders must register with organization above by sending information on experience in manufacturing of equipment, finances, references, etc. Copy of specifications available from Harza Engineering Co., 150 South Wacker Dr., Chicago, Ill. 60606.

Farm machinery

3622044—BELGIUM — Pilot circuit devices such as limit switches, interval timers, etc.; pushbuttons. Mfrs. bottling machines, washers, sterilizers, fillers, conveyers, etc., for breweries, dairies, food, chemical & pharmaceutical industries. Equipment will be incorporated in operator's desk or cabinets of above mentioned machines. Capitalized at BF 2,100,000, has 225 employees & annual sales volume about BF 120,000,000. Sells all over world. Good contact for U.S. firms. Contact—J. C. Vinois, Engineer, Vandergeeten S.A., 253 Rue De Birmingham, 1070 Brussels. Cable PRATIQUE-BRUSSELS; Tel. 521.42.20.

Communications equipment

• **3662000—MALAYSIA** — Executive Director, Pernas Wakil Sendirian Berhad, P.O. 2172, Tengkat 1, Kompleks Antarabangsa, Jalan Sultan Ismail, Kuala Lumpur, has issued tender number PW/KP/14/77 for supply of naval telecommunications system with range of 2,000 nautical miles. Bid deadline June 30. Copy of specifications available from prospective bidder's local agents only. Cost is M$100 per set (US $1=M$2.50 approx.).

• **3662000 — IRELAND** — Engineer in Chief, Department of Posts and Telegraphs, Contracts Section, Marlborough St., Dublin 1, has issued tender number C/610/6/2 for upgrading to 12 MHZ of coaxial cable systems in accordance with specification No. 6M1/77. Bid deadline June 2. Copy of tender forms and specifications available from above address.

• **3662000—LEBANON** — Major Salim Ghosn, Head of Communications Services, Internal Security Forces, Beirut, (Phone 38-5975) has issued tender for supply of 130 radio sets, AN/PRC 77; 20 radio sets, AN/VRC 47; 15 radio sets AN/VRC 49; 20 12V or 24V D C. chargers; 3,000 batteries for AN/PRC 77; and spare parts, accessories and installation kits. Inter-

ested parties contact Major Ghosn at above address.

• **3662000—MALAYSIA** — Director-General of Telecoms, Telecommunications Headquarters, (Bahagian Kendalian Penyiaran-OB) Bukit Mahkamah, Kuala Lumpur 05-01, has issued tender for supply of VHF/FM single channel rural radio-telephone equipment, comprising subscriber terminal equipment, exchange terminal equipment, aerial diplexing filters, signalling unit relay sets, connecting cables, connectors, and spares. Bid deadline June 8. Order is for about 70 links, about half of which will have coin box option. Copy of specifications available from above address upon payment of documentation fee of M$50 (US $1=approximately $M2.50).

• **3662000—SINGAPORE** — Foo Cheng Theng, Divisional Manager, Purchasing, Telecommunication Authority of Singapore, 4th Floor, Plaza Singapura, 68 Orchard Rd., Singapore 9, has issued tender number PT/25/77(x) for supply and installation of automatic private network message switching system. Bid deadline July 8. Copy of specifications available from above address for S$2,000 (approximately US $820), refunded to unsuccessful bidders.

• **3661000 — IRELAND** — Engineer-in-Chief, Department of Posts and Telegraphs, Contracts Section, Marlborough St., Dublin 1, has issued tender number C/610/7/29 for supply and installation of automatic manual telephone exchange. Bid deadline July 29. Copy of specifications available from above address.

• **3662000—INDIA** — Director General, Posts and Telegraphs, MMD Section, Parliament St., New Delhi 11001, has issued tender number 12-211/77-MMD for supply of four 400 watt M.F. transmitters and two sets lincompex terminal equipment. Bid deadline July 4. Copy of specifications available from Assistant Director General (Imports), Room 514, P&T Directorate, New Delhi, for US $2.74 per set.

3662000 — PERU — Dr. German Arenas Reano, Mng. Dir., Telecentro St., Ave. Arequipa 1110, Lima 7, Cable: PANTEL, Telex 3540292, Phone 71-4961, requests offers and quotations for supply of color tv studio equipment, including 3 complex color cameras, technical control equipment, director's booth equipment, audio control equipment, film chain equipment, recording equipment, instruments, oscilloscope and spares. Suppliers will be expected to provide financing. Interested parties write directly to Telecentro at above address.

Electronic components, accessories

3679032—BRAZIL—Switches & relays for electronic applications. Dir. sale & agency. Small mfr. of panelboards for process control instrumentation. Also acts as agent/importer of measuring & controlling devices. Founded 1973, 5 employees, reported sales CR$1 million in 1976. Currently represents several U.S. mfrs. of PCI. WTDR available. Reply to—Dr. Juan Mariano Mora, Mng. Partner, Alcofax Ind. e Com. Ltda., Caixapostal 18471, 01000 Sao Paulo. Phone 011/2401997.

Engineering, laboratory, scientific research instruments

• **3811000 — UNITED ARAB EMIRATES**—Abu Dhabi Municipality has tender for supply of sewage water pipe testing, monitoring and inspecting equipment. Middle East Trading and Contracting Co., P.O. Box 851, Abu Dhabi, would like to represent American supplier of such equipment. Interested firms send prices and catalogs to above address. Telex, 2389 MIDCAT; phone, 41322.

Instruments for measurement, analysis and control

3823070, 3823080—ITALY—Drinkable & waste water quality monitoring & control systems utilized by water treatment plants, incl. ph & rh analyzers; residual chlorine analyzers, dissolved oxygen analyzers, biochemical oxygen demand analyzers, chemical oxygen demand analyzers, total oxygen demand analyzers, total carbon analyzers, total organic carbon analyzers as well as conductivity meters. Also interested in handling automatic water samplers capable of recording time/flow ratio. Direct sale for resale or sole agency/distr. Prospect is leading Italian mfr. of water processing control instruments. Sells in Italy. Has excellent sales capability incl. 2 branch offices in Milan & Rome. Annual sales volume averages $5.9 million (FY76). Employs 300. Catalogs & price lists desired along with initial offer. Quote c.i.f. Genoa, or Turin in case of air shipment. Contact—Ing. Giovanni Girola, Technical Mgr., Equipment Div., Bosco & C., S.P.A., Via Buenos Aires 4, 10134 Torino. Cable MISACQUA; tel 011/360933.

• **3824000 — INDIA** — Chief Engineer, A&P, Uttar Pradesh Jal Nigam, Lucknow U.P., has extended deadline for bids on 60,000 watermeters under tender number 5 until June 21.

• **3825000—ALGERIA** — Direction de L'Infrastructure et de l'equipment Universitaire, Ministere de L'Enseignement Superieur et de la Recherche Scientifique, Place Du Ler Mai, Algiers, has issued tender number 1/77 for supply of basic scientific equipment for electronic institute laboratory at University of Bah-Ezzouar. Bid deadline September 30. All correspondence French, specifications metric. Copy of specifications available from above address.

• **3825000—IRELAND** — Department of Posts and Telegraphs, Contracts Section, Marlborough St., Dublin 1, has issued tender number C/610/6/8 for supply, installation and testing of frequency division multiplex equipment. Bid deadline June 8. Copy of specifications available from Engineer-in-Chief, Department of Posts and Telegraphs, Marlborough St., Dublin 1.

3829254—BELGIUM—Physical properties testing equipment, electronic, other types. Imports & distributes process control & laboratory instrumentation. Capitalized at 35 million bf & employs 100. Seeks to import for resale or act as distributor/agency for viscosimeters. Reply to—Freddy De Clercq, Saiac-Gent, NV ED. Pynaertkaai 18 B-9000 Gent. Tel. 091-25-58-68; telex 11309.

Surgical, medical, dental instruments

• **3841000, 3842000, 3069000—MALTA**—Department of Health, Valletta, has issued tender numbers 198 for chemical laboratory apparatus; 199 for suture needles; 219 for infant incubators; 220 for equipment for virology laboratory; 221 for surgical instruments; 224 for surgical instruments; and 225 for surgical instruments. Copy of specifications available from above address.

Photographic equipment, supplies

• **3861000—GREECE**—Ministry of Commerce, State Purchases Directorate 2, 20 Kanningos St., Athens, has issued tender number 285/1977 for supply of 180 photo copy machines for ministry of finance. Bid deadline June 2. Copy of specifications available free from above address.

Toys, amusements, sporting goods

3942006—FRANCE — Dolls which can talk. Founded in 1930's & capitalized at $200,000, importer, exporter, distributor & retailer of tires, auto radios, cassettes, bicycles & accessories for automobiles & bicycles. Sales area extends to E. France & Germany, sales network includes 12 traveling salesmen. Wishes to import above for resale or become distr. of U.S. mfr. Item would be included in Kautzmann's new leisure dept. Employs 150 & is said to be one of biggest in area in its particular field. Credit rating excellent. Recommended as trade partner. Reply to Marcel Kautzmann, Pres., Ets. Kautzmann, 280 Route de Colmar, 67024 Strasbourg Cedex. Telex 880488 F; phone 88-39.99.20.

Manufacturing industries

3999998—JAPAN — Retractable clotheslines, compact type. Product literature, specs & price quotations desired. Well-estab. wholesaler of livestock feed. Estab. 1952. Presently capitalized at 5 million yen & has 13 employees. Annual sales for 1976: 600 million yen. Bank ref: Fukuoka Bank, Nishijin Br., 9-28 Nishijin 4-chome, Nishi-ku, Fukuoka 814. Consulate recommends this company as suitable trade contact for interested U.S. firms but normal trade precautions should be taken. Fukuoka is center of $60 billion product market in W. Japan. Contact Consulate or nearest Dept. of Commerce District Office for information on how your company can enter this market. Reply to—Masayoshi Inoue, Mgr., Inoue Masa Shoten K.K., 2-11 Shodai 1-chome, Nishi-ku, Fukuoka City 914. Tel. 092-821-0731.

Representations

Foreign private firms are interested in agency agreements and/or ditributorships for these products.

Drugs

2830000, 2870000, 3520000, 3840000—NIGERIA—Life-care services and products. Newly established company wishes to represent on exclusive basis small to medium-sized manufacturing companies in areas of plant protection chemicals, animal health drugs, fertilizers, veterinary equipment and pharmaceutical products. Firm requests that expression of interest accompanied by product brochures be sent to Douglas N. Egbuonu, Mng. Dir., Agro-Pharma Services Ltd., 5 Ade-Ojo St., Ikeja Industrial Estate, Ikeja.

2833261—BELGIUM — Organic medicinal chemicals—multi-test vials, mono-test vials. Seeking establish agency in biochemical products & instruments. Has worked in chemical laboratories for 8 years. Reply to—Jose Van Hollebeke, De Hertoglaan 1, B-1730 Zellik. Tel. 02/ 452.73.70.

Chemical products

2899572—BOLIVIA—Inks, different types & colors. Reply to—Ricardo Belasco K., Casilla 5797, La Paz. Cable RIVEK LA PAZ.

Glass, glassware

3229120 — GERMANY — Inexpensive household glassware. Buyer, medium-sized mfr. & dealer in consumer goods, wishes add U.S. products to own line. Does not represent other companies. Employs 120. Annual sales volume: DM 30 million. No special requirements as to price quotation & terms of payment. Favorably known to consulate general. Reply to—Mr. Herrmann/Studio; Hugo Brennenstuhl GmbH & Co. KG; Seestr. 1-3; D-7400 Tuebingen 9/Pfrondorf. Telex 7262877. Tel. 07071/26076.

Special industrial machinery

3551354—BOLIVIA—Peanut butter making machinery. Reply to Empbol S.R.L., Casilla 3105, La Paz.

3559351—AUSTRIA — Injection molding machines for foamed plastics products (TSG) with clamping force up to 1,000 m/t or more. Sizes 1-50 kgs length of finished foamed products up to 2 meters. Machines should be suited for physical & chemical gassing. Interested in obtaining prospectus, technology, documentation, & reference list of machines operated in W. Europe. Sees market opportunities only if servicing of machines done promptly from Vienna, & therefore desires that contract include training of local personnel by U.S. partner's mechanic. Would be prepared to set up & maintain warehouse for goods shipped on consignment to allow for prompt delivery. Experienced East-West trader, estab. 1969; represents U.S. companies in non-competitive field. Rep. for Czechoslovakia, Hungary, Yugoslavia; possibly other E. European countries. Cable Director, Michael Kaufmann, Canada Products Aussenhandelsges m.b.h., Bauernmarkt 24, Postfach 473, A-1011 Vienna. Cable 7-4476A.

3559589—BOLIVIA — Machinery to produce ball point pens (dry ink), medium size, semi-automatic. Machinery to produce epoxy resins. Quotations Santos, Brazil. Corresp. in Spanish. Reply to—Recauchutadora San Joaquin, Antionia Dabura, Casilla 560, Cochabamba.

Electrical industrial apparatus

3621853 — DENMARK — Mini-motors, servos, gear trains. Excl. agency or distr. Medium-sized firm fully owned by Gulf Plus Western Mfg. Co. U.S. parent co. has given Danish subsidiary permission to seek new sources of supply. Firm covers all of Denmark & is at present building up export markets in Norway, Sweden & Finland as well as in Benelux countries. Reply to—Esben Hove, Mng. Dir., International Elco Aps., 2 Hordholmen, DK-2650, Hvidovre. Cable INELCO; tel 45 1 49 11 66; telex 19390 INELCO DK.

Household appliances

3631179—DENMARK—Microwave ovens. Excl. agency or distr. Medium-sized firm fully owned by Gulf Plus Western Mfg. Co. U.S. parent co. has given permission for Danish subsidiary to seek new sources of supply. Firm covers all Denmark & is at present building up export markets in Norway, Sweden & Finland as well as in Benelux countries. Reply to—Esben Hove, Mng. Dir., International Elco Aps., 2 Hordholmen, DK-2650 Hvidovre. Cable INELCO; tel 45 1 49 11 66; telex 19390 INELCO DK.

Radio, television receiving sets

3651567—GERMANY — Home-type electronic kits to be assembled by consumer for audio equip. Medium-sized mfr. of cardanic shafts for trucks, hose clamps, accessories for hydraulic fittings, with 565 employees in 3 plants & distribution lines. Wishes to add all kinds of do-it-yourself, hobby articles as well as articles for camping. Well reputed firm, has necessary business connections for these additional lines. Financial situation orderly. No derogatory info received. Reply to Klaus Woerner, Mgr., Heinrich Woerner GmbH & Co. KG, Vilveler Landstrasse 7, 6000 Frankfurt/Main 61. Cable HWFFM D; telex 04 17 266; tel 0611-410321.

Measuring & controlling devices

3825256—BELGIUM—Audiometers in dba & spectrum. Corporation acts as agent distrib. of various machine tools & access. & precision measuring tools. Engages in study & installation of sound proofing of machine tools & walls. Equipment needed & should be similar &/or complementary to English Castle sonometers or German Beka sonometers. Contact—Bernard Lenglois, Cetec S.A., Avenue Moliere 104, 1060 Brussels. Telephone: 343.01.90; telex: 21042.

3825300—BELGIUM — Oscillographic recorders, pen or stylus type; oscillographic recorders, light beam type; transducers for volts, amperes, watts, temperature & power factor. Interested in lab instruments for measuring electricity—digital & analog multimeters & related products—for agency/distrib. Reply to—Paul Colyn, CCI (Dept. E), Frankrijklei 115, 2000 Antwerpen. Tel. 031/32 78 64; telex 31 172.

Optical instruments, lenses

3832100—BELGIUM — Ph electrodes & meters; ion selective electrodes & meters; electrophresis chambers & supplies; other electrochemical instruments, except process types (incl. polarographic, redox, titraters, etc.). Cap. at 2.5 million bf, fully paid & employs 30. Imports & wholesales lab. & scientific instruments & pollution control apparatus. Acts as agent for U.S. firms. Reply to—Mr. Ronald Ankersmit, Mgr., Ankersmit, SPRL, 204 Steenweg Op Drogenbos, 1180 Brussels. Tel 02-376-20-17; telex 24415.

3832115—BELGIUM — Fluorimetry instruments. Seeks to combine academic activities with new commercial activities. Reply to—Georges Poortmans, Professor, Universite Libre de Bruxelles (ULB), ISEPK-Paul Heger, B-1050 Brussels. Tel. 02/ 649.0030 (ext. 2195).

3832101—BELGIUM—PH meters & other lab apparatus. Owner of electronic products & accessories firm founded last year & specializes in pharmacological & biological lab apparatus—still on small scale—would like to extend range of products for which it is agent-distributor to incl. electronic accessories for theatrical productions, such as light modulators affected by sound, etc. Reply to—Guy De Ridder, Owner, Addelec, 23 Rue Leopold II, Les Bons Villers 6310. Tel. 071/85 15 09.

Musical instruments, parts

3931000—SPAIN — Musical instruments. Handles on agency basis, import & export of all sorts commodities. Operates throughout Canary Islands & W. African countries. Cites following financial references—Banco Iberico, Banco Central, Banco Hispano Americano, Caja Insurar De Ahorros De Gran Canaria, all at Las Palmas offices. Requests quotations c.i.f. port of Las Palmas. Call or cable—F. Moreno C., Foreign Dept., F. R. Moreno, AVDA. Buenos Aires, 19, Las Palmas De Gran Canaria. Cable FARAMO; Tel. 928/ 216-910.

Toys, amusement, sporting goods

3944241—GIBRALTAR — Toys, all ages, such as structural kits or model construction sets. Handles all kinds of hand luggage, handbags, leatherette gift items, & toys. Reply to—Moses R. Benamor, Benamor & Co., P.O. Box 92, 133 Main St., Gibraltar. Tel 2680; Telex GK 280.

Special product groups

9950004—BOLIVIA—Firm wants to contact dealers for Johnson baby products, or equal. Reply to—Corporation Comercial Boliviana S.A., Antonio Moreno, Casilla 778, La Paz. Cable: COBANA.

Visiting Buyers & Officials

AUSTRALIA—A businessman from Sydney will be in the United States from May 24 until about June 9; **he plans to visit Philadelphia, Houston and San Francisco. He wishes to locate American suppliers of outdoor living products** salable in department and hardware stores, including **furniture, barbecue equipment, lighting, recreational and camping equipment.** Contact Peter B. Alois, Room 2322, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-3265.

AUSTRALIA—Businessman visiting U.S. in late July seeks contact with U.S. manufacturers of **ribbons, braids and laces.** For further information contact Jim Nader, U.S. Dept. of Commerce, Room 2322, Washington, D.C. 20230; 202-377-3265.

SWEDEN — Businessman visiting U.S. late May-early June would like to meet manufacturers who can supply following items for immediate purchase: **casual wear, socks, t-shirts, sweatshirts, warm-up suits, and footwear; 5,000 royal air force jackets; electronic systems enabling truck drivers to continuously read tire pressure.** Contact Jim Nader, 202-377-3265.

SWEDEN—Businessman visiting U.S. in

early June seeks contact with American manufacturers of: **cylindrical and surface grinding machines** (production types). Contact Jim Nader, 202-377-3265.

THAILAND—Buyer visiting U.S. in July wishes to contact U.S. suppliers of **telephone components**, e.g., push button switch keyboards, connectors, etc.; also PBX boards and accessories. Contact Jim Nader, 202-377-3265.

Future Construction Abroad

SAUDI ARABIA — A.T.M. Jamil, King Abdul Aziz University, P.O. Box 1540, Jidda, is planning to establish an industrial engineering department and is seeking contacts with U.S. manufacturers and consultants capable of designing and installing the following: **computer-aided manufacturing lab; time and motion study lab; human factors engineering lab; and audiovisual aids package for teaching and lecturing.** The University also desires **industrial guides** for its reference library, particularly in fields of machine tools and minicomputers. Please send copy of correspondence to Pete Zantal, CAGNE/BIC, U.S. Dept. of Commerce, Wash., D.C., 20230; 202-377-4441.

SUDAN—Prequalification data sheets for **Sennar-Damazin road** available from Louis Berger International, Inc., 100 Halstead St., East Orange, N.J. 07019. The major asphalt-paved trunk road 250 km. along Blue Nile with 50 km.-branch to Gerabin will be financed by Sudanese Government, Arab Fund for Economic and Social Development, and Kuwait Fund for Arab Development. Cost is estimated at $40-$60 million. Tender documents for prequalified bidders will be available in August, with tenders due last part of October. In addition to paving, bridges, miscellaneous structures and other incidental works will be required. Prequalification material must be submitted to Director General, Roads and Bridges Public Corp., P.O. Box 756, Khartoum, as well as Louis Berger/Kampsax, Sudan, P.O. Box 1671, Khartoum, by June 30.

IRAN—Educational Building Industries, Inc. (EBI) is government company organized to study and implement mass production of school facilities. In this connection, EBI's consulting architect is seeking information on application of **solar heating** to industrialized components for school buildings. He wishes to receive specific information as follows. Applications: water and space heating, space cooling, ventilation. Medium for heat transfer: water and air. Heat storage: lightweight daytime use only. Auxiliary energy: linkage of solar energy system with simple oil, kerosene, or electrically-fueled heaters. Installation/operation/maintenance: simplicity, durability and low cost. Company working to put together experimental school building package, preparatory to extensive country-wide plan. Pilot project may provide solar energy companies with platform to demonstrate applicability in Iran. Manufacturers having systems or technology designed particularly for use with solar energy, may wish to provide EBI with information. Contact Neil Macindoe, Consultant Architect, Educational Building Industries, Inc., Miremad Ave., No. 12 7th St., Tehran. OPIC.

The Overseas Private Investment Corp. (OPIC) offers political risk insurance on assets and bank guaranties to U.S. construction and service firms planning to submit bids on projects in certain developing countries, identified by the "OPIC" notation at the end of some items. For further information on OPIC's contract insurance programs, write Construction Insurance Officer, Overseas Private Investment Corp., Washington, D.C. 20527. Tel: 202-632-7825.

MOROCCO—Ministry of Public Works is prequalifying firms for engineering study, construction, transportation, assembly and putting into operation of **electro-mechanical equipment for Sidi Driss Dam** on Oued Lakhdar River. Financed by Moroccan National Investment Budget. Closing date for submittal of prequalification material June 6. Submittal should be in French. For additional information contact Pete Zantal, CAGNE/BIC, U.S. Dept. of Commerce, Wash., D.C., 20230; 202-377-4441. OPIC.

IRAQ—National Center for Engineering and Architectural Consultancy, Rashid St., P.O.B. 3290 Sadoon, Baghdad, (Telex: 2260 LK, Cable; TASAMIM), is seeking qualified firms for construction of **three grain silos** at Talafar (60,000 tons), Shirkat (40,000 tons), and Sinjar (20,000 tons). Tender documents available from address above at $1,025. Project partially financed by World Bank. Closing date for submittal of bids June 15. Contact Pete Zantal, 202-377-4441.

TUNISIA—Office National de L'Assainissement (ONAS), Rue de Senegal, Tunis (Telex: ONASTU 12080 TN; Phone: 288-228, 288-372), is seeking qualified firms for construction and equipping of **water purification station** capable of handling 15,000 kilograms DB05 per day and 3350 cubic meters per hour, with oxidation channel equipped with vertical axis aerators. Project partly financed by IBRD and Saudi Development Fund. Project comprised of two lots: A) construction; and B) electrical and mechanical equipment. Tender documents can be purchased from ONAS at above address for equivalent of 22 Tunisian dinars (1 TD equals $2.30) for each lot; closing date for submittal of proposals July 11. Contact Pete Zantal, 202-377-4441. OPIC.

TUNISIA—SONEDE, 23 Rue Nehru, Montfleury, Tunis, (Telex: SONEDE 12262 TN; Phone: 249-700), is seeking firms for construction of **two reservoirs** of 10,000 cubic meters each in southern Tunisia. Tender documents and specifications available from SONEDE for equivalent of 20 Tunisian dinars each (1 TD equals [illegible]). Closing date for submittal of bids June 17. OPIC.

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Atlanta, 30309, Suite 600, 1365 Peachtree St., N.E. (404) 881-7000.

Baltimore, 21202, 415 U.S. Customhouse, Gay and Lombard Sts. (301) 962-3560.

Birmingham, Ala., 35205, Suite 200-201. 908 S. 20th St. (205) 254-1331.

Boston, 02116, 10th Floor, 441 Stuart St. (617) 223-2312.

Buffalo, N.Y., 14202, Room 1312, Federal Bldg., 111 W. Huron St. (716) 842-3208.

Charleston, W.Va., 25301, 3000 New Federal Office Bldg., 500 Quarrier St. (304) 343-6181, Ext. 375.

Cheyenne, Wyo., 82001, 6022 O'Mahoney Federal Center, 2120 Capitol Ave. (307) 778-2220, Ext. 2151.

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Cleveland, 44114, Room 600, 666 Euclid Ave. (216) 522-4750.

Columbia, S.C., 29204, Forest Center, 2611 Forest Dr. (803) 765-5345.

Dallas, 75242, Room 7A5, 1100 Commerce St. (214) 749-1515.

Denver, 80202, Room 165, New Custom House, 19th and Stout Sts. (303) 837-3246.

Des Moines, Iowa, 50309, 609 Federal Bldg., 210 Walnut St. (515) 284-4222.

Detroit, 48226, 445 Federal Bldg., 231 W. Lafayette (313) 226-3650.

Greensboro, N.C. 27402, 203 Federal Bldg., W. Market St., P.O. Box 1950. (919) 378-5345.

Hartford, Conn., 06103, Room 610-B, Federal Office Bldg., 450 Main St. (203) 244-3530.

Honolulu, 96813, 286 Alexander Young Bldg., 1015 Bishop St. (808) 546-8694.

Houston, 77002, 2625 Federal Bldg., 515 Rusk Ave. (713) 226-4231.

Indianapolis, 46204, 357 U.S. Courthouse & Federal Office Bldg., 46 E. Ohio St. (317) 269-6214.

Los Angeles, 90049, Room 800, 11777 San Vicente Blvd. (213)824-7591

Memphis, 38103, Room 710, 147 Jefferson Ave. (901) 521-3213.

Miami, 33130, Rm. 821, City National Bank Bldg., 25 W. Flagler St. (305) 350-5267.

Milwaukee, 53202, 605 Federal Office Bldg., 517 E. Wisconsin Ave. (414) 224-3473.

Minneapolis, 55401, 218 Federal Bldg., 110 S. Fourth St. (612) 725-2133.

New Orleans, 70130, Room 432, International Trade Mart, 2 Canal St. (504) 589-6546.

New York, 10007, 37th Floor, Federal Office Bldg., 26 Federal Plaza, Foley Sq. (212) 264-0634.

Newark, N.J., 07102, Gateway Bldg. (4th floor) Market St. & Penn Plaza (201) 645-6214.

Omaha, Neb., 68102, 1815 Capitol Ave., Suite 703A (402) 221-3665.

Philadelphia, 19106, 9448 Federal Bldg., 600 Arch St. (215) 597-2850.

Phoenix, Ariz., 85073, 2950 Valley Bank Center, 201 N. Central Ave. (602) 261-3285.

Pittsburgh, 15222, 2002 Federal Bldg., 1000 Liberty Ave. (412) 644-2850.

Portland, Ore., 97204, Room 618, 1220 S.W. Third Ave. (503) 221-3001.

Reno, Nev., 89509, 2028 Federal Bldg. 300 Booth St. (702) 784-5203.

Richmond, Va., 23240, 8010 Federal Bldg., 400 N. 8th St. (804) 782-2246.

St. Louis, 63105, 120 S. Central Ave. (314) 425-3302.

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San Francisco, 94102, Federal Bldg., Box 36013, 450 Golden Gate Ave., (415) 556-5860.

San Juan, P.R., 00918, Room 659, Federal Bldg., Chardon Ave. (809) 753-4343, Ext. 4555

Savannah, 31402, 235 U.S. Courthouse and Post Office Bldg., 125-29 Bull St. (912) 232-4321, Ext. 204.

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Assistance or information about overseas marketing may be obtained by dialing key people directly: **202-377** plus the given extension. For information related to specific countries contact the Country Marketing Manager:

Africa (sub-Sahara) **4927**

Europe

France and Benelux Countries **3337**
Germany and Austria **3187**
Italy, Greece and Turkey **3944**
Nordic Countries **3848**
Spain, Portugal, Switzerland and Yugoslavia **2795**
United Kingdom and Canada **3415**

Far East

Australia and New Zealand **3646**
East Asia and the Pacific **5401**
Japan **2896**
South Asia **2522**

Latin America

Brazil, Argentina, Paraguay and Uruguay **5427**
Mexico, Central America and Panama **2314**
Remainder of South America and Caribbean Countries **2995**

For information related to the overseas promotion plans for specific product groupings, contact the Operational Planning Division organized along the following industry lines:

Group I — Computers, business, graphic arts, agribusiness and packaging equipment. **3036**

Group II — Electronics production and components, metalworking, communications, and specialized production machinery and equipment. **3168**

Group III — Laboratory, scientific, test and measuring instrumentation, healthcare and specialized processing equipment. **2843**

Group IV—Water and Air purification, electric energy, construction, materials handling, transportation machinery and equipment and consumer goods. **2808**

Special units within the Department of Commerce have been created to deal with particular marketing situations:

Commerce Action Group for the Near East

North Africa **5737**

Near East

Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Peoples Democratic Republic of Yemen, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen Arab Republic **5767**

Iran, Israel, Egypt **3752**

Bureau of East-West Trade

Assistance and information on how to do business with and selling U.S. products to the U.S.S.R., People's Republic of China, Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, and Romania may be obtained from the Office of East-West Trade Development in the Bureau of East-West Trade, U.S. Department of Commerce, Washington, D.C. 20230.

For information on the following product areas, contact the Trade Development Assistance Division or dial extension:

Electronics and Aviation Equipment **2871**

Automotive, Construction, Mining and Metallurgical Industries **3352**

Chemicals, Pharmaceuticals, and Related Processes and Equipment **2460**

Energy and Services **2835**

Capital Equipment, Food Processing, and Textile Machinery **4002**

For information on exhibitions, seminars and other promotion events sponsored by the Department of Commerce in these countries, contact the Trade Promotion Division or dial **202-377-4161.**

For information on the economies of any of these countries—plans, performance, foreign trade, bilateral relations with the United States, trade agreements, joint commissions and policy issues—contact the:

U.S.S.R. Affairs Division **4505**

Eastern European Affairs Division **2645**

People's Republic of China Division **3583**